# THE BUILDER

## A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIV.—No. 3651. JANUARY 24, 1913


## ILLUSTRATIONS.


BUSINESS PREMISES, HAYMARKET, S.W. MR. WALTER CAVE, F.R.I.B.A., ARCHITECT.
GENERAL VIEW.
DETAIL OF MAIN FRONT.
SECTION DETAIL OF FRONT ELEVATION.

WEST CHINA UNION UNIVERSITY, CHENGTU.
ACCEPTED DESIGN BY MESSRS. F. ROWNTREE, F.R.I.B.A., & SON.


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# STUDENTS' DRAWINGS AT THE R.I.B.A.

TAKEN as a whole, the drawings submitted for the various prizes are of an unusual standard of merit, those submitted for the Soane Medallion and the Owen Jones Prize being specially worthy of note.

The subject chosen for the Soane, a terminal railway-station, has proved very attractive to students, and it may be said that few out of the whole number of competitors have submitted work which does not attain a very considerable degree of merit, while several of the schemes submitted show a grasp and thoroughness of dealing with a difficult subject which augurs well for the future of their authors.

The Soane Medallion and 100*l.* is awarded to Mr. James M. Whitelaw for a scheme submitted under the motto "Solertia Ditat." The drawings are unfinished, but have evidently been considered to show a largeness and mastery of handling which have been held to more than counterbalance any minor defects. As will be seen from the perspective sketch which we reproduce on the next page, the station is in this design covered by an immense ferro-concrete roof which dominates the whole group. The triple-arched entrance leads into a large hall placed transversely, over which the great mass of the station roof shows. The arcaded sides of the station, which form an abutment to the station roof, are given up to accommodation for customs and luggage, and the concourse or open space within the station is finely treated and groups exceedingly well with the lower stretch of the station beyond.

The main disposition of features and the suggestion of interest given by the richer portions of the design leave little to be desired. Detail is naturally, under the circumstances, rather suggested than shown, but there is reason to think that with more time the author's detail would have been as satisfactory as his main scheme. The immense depth of the arches, while they convey a sense of power, are a little suggestive of the architectural methods of Richardson, and seem rather at variance with the classic character of the design. We hope to illustrate this set of drawings fully next week.

Mr. H. Chalton Bradshaw ("Rocket") secures an Hon. Mention for a finely-conceived and beautifully-drawn scheme, which is somewhat spoilt by the unnecessary height of the waiting hall, which is placed transversely on the site, and in front of which is a longitudinal block, on either side of which are arranged courtyards for cabs flanked by outer ranges of buildings lining up with the sides of the station. The detail of the main entrance and the care and skill shown by the whole set of drawings leave nothing to be desired, and it is in the main disposition of mass and general grasp of grouping that the design fails.

Another fine scheme is that submitted under the motto "Registered Luggage," by Mr. R. W. Cable, which is also awarded an Hon. Mention. The author has made a closer study of the requirements of a station than any other competitor, and has gone carefully into the methods of dealing with and handling luggage, and the disposition of every detail of a great terminus. The design is carried out in a carefully restrained and refined classical manner, and shown by one of the most beautifully executed set of drawings in the exhibition.

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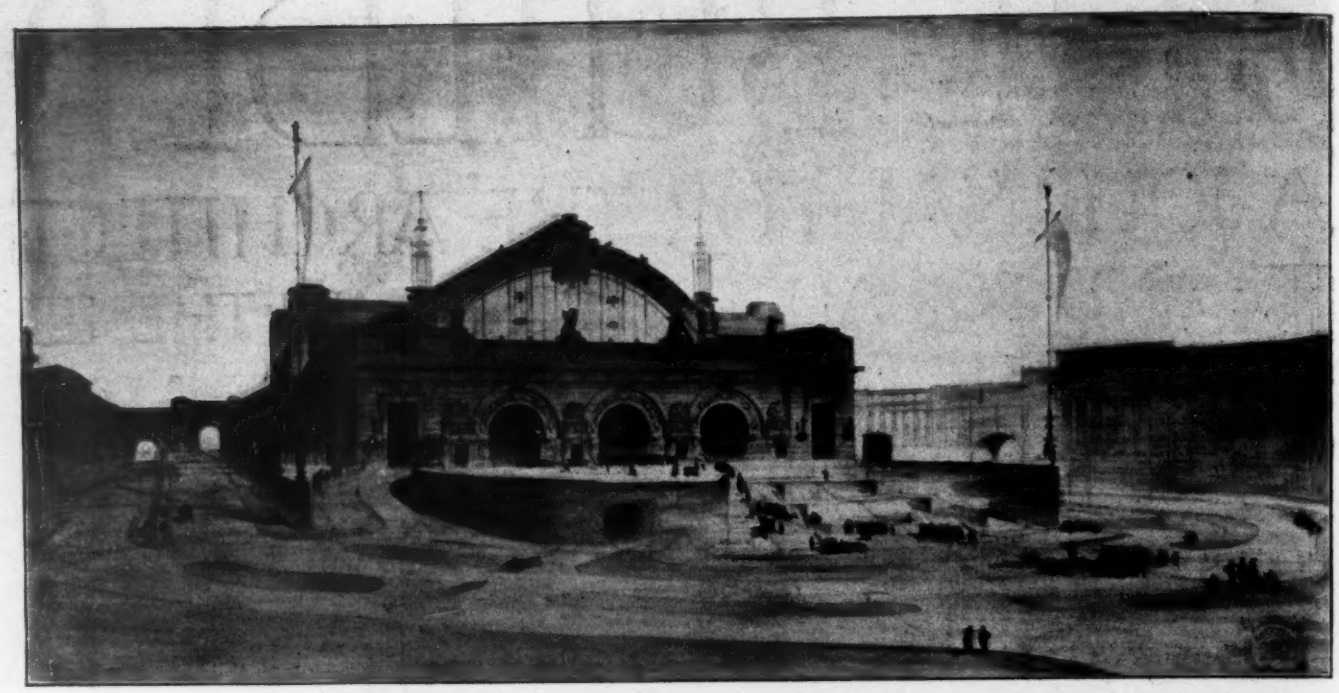


**Winning Design in the Soane Competition for a Terminal Railway-Station. By Mr. J. M. Whitelaw.**

"O. R." submits a well-conceived and dignified design, in which effective use is made of side flanking wings, which project in front at either side. Both detail and general scheme show a thorough grasp of design.

"City Gates" is a fine design in which effective use is made of a large circular hall. Although we consider this to be a defect from a practical standpoint, the various details of the plan show no small ingenuity and skill.

The author of a design submitted under the device of a swan in a square submits a fine scheme, both in plan and elevation, which is greatly helped by the levels which have been assumed for the station and offices.

"Queen's Knight" sends in a scheme which shows ability and skill, but he has manufactured difficulties for himself by planning circular carriage courts which do not arise naturally out of the conditions.

There is much good work submitted for the Tite Prize, but the general level of attainment shown is not so high as that marking the competition for the Soane, nor are the designs submitted generally of so classical a character as those submitted for the latter, though the conditions laid down would lead one to expect the reverse.

The Tite Prize is awarded to Mr. Cyril A. Farey for a design submitted under the motto "Palladio," and shown by a most beautifully worked-out set of drawings. It is a well-designed and very dignified scheme, and quite the best of any submitted for the prize. The elevation is skilfully proportioned, the rusticated basement and mezzanine stories giving the range of principal rooms the necessary emphasis and dignity. A defect seems to us to be the very square proportions of the three entrances, though skilful detailing partly does away with this defect.

An Hon. Mention is awarded to Mr. Bryan Watson, who submits in "Roma" an excellent set of drawings and finely-worked-out detail. The treatment of the ground story in its relation to the large upper range of windows is well conceived.

"Butterfly in Circle" submits a good set of drawings and a praiseworthy design, which is somewhat spoilt by the introduction of a Palladian note into the centre part of the front which conflicts with the flanking treatment, which is reminiscent of Vignola.

"Juvenis" submits one of the best designs, showing a strong trace of French influence. Great refinement, as well as considerable power, is the general impression given, and a very pleasing feature is the caryatid gallery immediately under the main cornice.

There are several designs marked by considerable merit, among them those by "Anarchist," but comparatively few competitors have risen to the full possibilities suggested by the subject; commonplace design unhappily often mars the treatment of palaces in reality, but to the student the subject should, we think, have suggested more inspiration than is shown. Many otherwise good designs are spoilt by the introduction of unnecessary central features, which give them the appearance we unhappily associate with modern blocks of commercial buildings.

For the Pugin Studentship excellent work is submitted, and it must have been somewhat difficult to arrive at a decision on account of the quality of most of the work sent in. We are glad to see that so much of the work is rendered in colour, as we consider that insufficient stress has been laid on the colour of building materials and their texture until recent years.

Mr. William Paterson gains the Pugin Travelling Studentship for some fine studies of Holyrood Chapel and some finely-executed coloured drawings of Hampton Court Palace, the execution of which is admirable.

Mr. Joseph Hill gains an Hon. Mention for a set of interesting and workmanlike drawings of the Chapter House at Wells, and a fine colour drawing of Whiston Church, Northants; while another Hon. Mention is obtained by Mr. F. R. Howard, who has submitted an interesting set of studies of country churches, among which we many mention the Church of St. John the Baptist, Higher Ashton, Devon; the Parclose Screen, Torbrian, Devon; the interesting bench-ends of Crowcombe Church, Somerset; and studies of Wilcote Chapel, Northleigh, Oxon, and the Church of St. Lawrence, Combe, in the same county.

Among the remaining drawings we may mention a fine colour drawing of the Tower of the Church of St. Andrew, Sutton Church, in the Isle of Ely.

An unusually high standard is reached in the competition for the Owen Jones Prize, in recognition of which all competitors other than the winner have been awarded Hon. Mentions. The prizewinner, Mr. William Harvey, sends drawings of the Church of the Dome of the Rock, Jerusalem, the gold decoration of which is effectively emphasised by the black backgrounds, and the Church of the Nativity at Bethlehem. Mr. Huggill gives decoration from the Bartolomini Library and Chigi Chapel, the large detail of mosaics from the latter being particularly excellent, as well as a delightful colour rendering of stained glass from Chartres; while Mr. Walter Keesey sends drawings of English and French glass and colour decoration from the Church of St. Francesco at Assisi, St. Mark's at Venice, and the charming front of the Badia Fiesolana at Florence. Mr. Ivor Beaumont gives in his drawings examples of stained glass from Chartres and decoration from the Loggia at the Vatican. It suffices to say that all the foregoing drawings represent an amount of skill in and knowledge of the rendering of colour which we have rarely seen equalled and never surpassed.

The Silver Medal and Ten Guineas is awarded to Mr. H. C. Mason for a striking set of drawings of Blenheim Palace. Mr. Bernard P. Gaymer obtains an Hon. Mention for an excellent set of drawings of the interesting Church of St. Agnes, Cawston, Norfolk, carried out in pencil with light washes of colour.

Another Hon. Mention is awarded to Mr. Gordon Hemm for a very complete

and well-rendered set of drawings of the Manchester Old Town Hall; and Mr. Leonard B. Leech is awarded an Hon. Mention for drawings of Southwell Minster. Among other noteworthy subjects chosen is St. Vedast's Church.

The Arthur Cates Prize is awarded to Mr. Charles F. Butt for a praiseworthy set of designs and sketches, some of which are of decided merit, and all indicate careful and conscientious work.

The Grissell Prize has not been awarded this year; the subject, a riding school, does not seem to have stimulated the competitors' imaginations. The only two designs outstanding are those submitted by "Ilium," which shows a high building roofed with three domes, which is not very suggestive of the subject, but shows a knowledge of iron construction, and a charming little design submitted under the device of a triangle in a circle. This latter is designed in a pronounced French manner, and as a scheme is of marked merit; but as an exercise in iron construction it is almost useless, as little constructive skill is necessary for the type chosen. Considering that the object of the Grissell Prize Competition is to encourage the study of iron construction, we think that students will hardly be encouraged by the withholding of the prize.

The Henry Saxon Snell Prize is awarded to Mr. Vincent Hooper for a well-drawn and cleverly-designed scheme for a consumptive sanatorium, which merits its position by the greater recognition shown by its author of the nature of the problem and the avoidance of high buildings for patients.

Another able scheme is that submitted by Mr. L. G. Pearson, which, as a piece of design, is the best submitted. The practical considerations imposed by the subject are not, however, so clearly borne in mind as in the winning design.

Taken as a whole, we consider the students' drawings show a high average standard of attainment, care, and throroughness, and the level of draughtsmanship reached is an excellent one. Another feature is, we are inclined to think, the growing perception of the necessity for and importance of classical methods in design, but we rather miss the note of enthusiasm which was in some past years so marked a feature of some of the designs submitted. There must in all progress be a loss as well as a gain, and we are absolutely convinced that we are on the right track in endeavouring to feel our way back to the safe path of tradition, and it is natural that the student should be affected by the spirit of the time. The man who seeks precedent may, however, lose a certain amount of freshness and enthusiasm, but when we reach the right path that enthusiasm will be regained with the certainty given by knowledge. There is evidence, too, that without a Beaux-Arts training our students are able to appreciate the great truths of the necessity for knowledge and the importance of an educated understanding of architecture. There are many roads by which students can arrive at their goal, but it is at least likely that there are merits in English methods which have not been sufficiently realised by its critics.

## NOTES.

**A Canadian Architect at the R.I.B.A.**

A VERY interesting paper on "Canadian Architecture," by Mr. F. S. Baker, of Toronto, the President of the Royal Architectural Institute of Canada, was read before the Royal Institute of British Architects last Monday. Mr. Baker in his paper, which we report in this issue, confined himself chiefly to a description of the conditions under which work is carried out in Canada, rather than to making an attempt to analyse the merits of the work, and perhaps in so doing he was well advised. Many of the younger men who have entered our profession will find what he said of especial interest and value, as they may be at the parting of the ways and inclined to weigh the opportunities to be obtained in a new and developing country as compared with the ancient and historic but overcrowded field afforded by England. Mr. Baker reviewed the extraordinary diversity of climate which has to be considered by the Canadian architect, and the building materials obtainable, and gave some account of the recognition afforded by Canadian laws to the architect. Drawings have to be very carefully and well prepared, as quantities are not known, every contractor taking off his prices from the architect's drawings, as was the custom here in the past. Mr. Baker briefly but thoroughly reviewed the different classes of public buildings carried out in Canada, laying great stress on the number of the bank buildings which are provided and their importance as architectural works, which are generally, he says, built without any curtailment of expense. He takes exception to some of the remarks made in an article which appeared in a past issue of the *Builder* on "Imperialism and Architecture," to the effect that American ideas and methods of expression are being appropriated in Canada, and that in many of the great cities the chief buildings are the work of American architects, and says that British influence is much the strongest one affecting Canadian architects. We are glad to hear these disclaimers, but we may add that the climatic conditions and method of life in Canada bear such a strong resemblance to those obtaining in the northern territory of her great neighbour that we may well be excused for thinking that what is possibly but the effect of natural conditions has in it a political element. No Englishman visiting such cities as Vancouver and Winnipeg for the first time can fail to recognise their great outward similarity with towns on the southern side of the boundary, but we must gratefully and enthusiastically recognise the strength of that Imperial tie which has been made so abundantly manifest to us in the recent past by the magnificent loyalty of our greatest Colony.

**The Safety of St. Paul's.**

WE note with satisfaction that the Home Secretary, in reply to Mr. Kellaway, announced that he is consulting the National Physical Laboratory as to the possibility of a series of tests being undertaken with the object of ascertaining the amount of vibration from the traffic at different periods of the day in streets adjoining the Cathedral, and what effect, if any, it has on the fabric. Vibration is one of those outside influences detrimental to the safety of the building to which Sir Francis Fox definitely referred in his Report. Not being under the control of the Cathedral Chapter, it is only right and proper that the State should take cognisance of it. As we have already pointed out, there may be other influences equally detrimental involving possibilities of future disaster in the condition of the slope of the hill. So far as we are aware there is nothing to prevent a builder from pumping for months at a time if found necessary in the course of ordinary building operations on this slope, without giving notice to the Cathedral or other authorities. We should welcome an assurance that steps have been or will be taken to guard against future danger in this direction. The Dean and Chapter has issued an appeal for funds for the immediate repair of the Cathedral by means of the grouting process, which we hope will meet with a generous response. But, however essential this work may be, it does not strike at the cause of the trouble. Sir Francis Fox's Report leaves an impression on the mind that there must be some definite cause, or causes, other than vibration that account for recent movements. Unless they are discovered and remedied, movements will occur again. It is on this point that we look for some authoritative statement.

**The Value of Omission.**

MR. MARCH PHILLIPPS in his book tells us that what distinguishes Greek architecture from all other styles is that they are based on additions, while Greek art is based on subtraction, or, in other words, the resolute and determined elimination of what is not absolutely required for the attainment of the end sought. We feel that in many cases, like other able gifted writers, Mr. Phillipps pushes his theories to an extreme, but we are absolutely with him in thinking that among the qualities which go to make architecture there is hardly any one so important as reticence. Although many of our modern buildings are most blameable in this particular, redundancy of features and ornament are frequently to be met with in the past. The arcading with which the fronts of Salisbury Cathedral are covered is such an instance; the entablature of the Temple of Fortuna Virilis another, while much of Elizabethan and Jacobean work merits similar criticism. To express one's meaning in few and simple words is often to make it forcible, and in design the same holds good. A building's function is not to show the universality of the designer's knowledge of architectural forms, but his judgment in using wisely, logically, and well what is really necessary.

## THE REGULATION OF ADVERTISEMENTS.

THE advertising nuisance is a very real one and almost as great a factor in spoiling our towns, and in some cases countryside, as any one of the many developments which have accompanied the growth of modern civilisation; while big hoardings disfigure our towns, the lines of most of

our great railways are often thickly planted with appeals to the attention of the passengers in the shape of notice boards, figures, and animals cut out of sheet iron and the like monstrosities. In America the evil is still more insistent, even the neighbourhood of the great Falls of Niagara being desecrated with gigantic advertisements.

We have before us a Report drawn up by Mr. John S. Brodie, the Borough Engineer of Blackpool, for circulation among the members of the Institution of Municipal and County Engineers, for their general information, entitled "Advertisement Hoardings," in which he draws attention to the steps which have been taken under the provisions of the Advertisement Regulation Act of 1907 for the mitigation of the evil. In all nine counties, including the county district of Southampton, and eleven borough and urban districts have enacted by-laws dealing with the subject. The first part of the Act deals with the structural details of advertisement hoardings which exceed 12 ft. in height, the second part with regulations for advertisements which are visible from any public park or pleasure promenade or which may disfigure natural beauties in certain specified areas or districts, while the third part enacts that no existing advertisement hoardings shall be interfered with until a period of five years from the making of the by-laws.

The Corporation of Edinburgh has adopted more drastic regulations than any other authority, and have made it illegal to "erect, exhibit, fix, maintain, retain, or continue an advertisement, whether now existing or not, upon any land, house, building, or structure except on such sites, hoardings or other structures which the Corporation may in writing licence, and such licence may be granted for a period not exceeding four years." To this by-law there are five exceptions, viz., window exhibitions, signs in connexion with trade or business, including notices in connexion with the letting of land, railway companies' notices, and the qualifying provision exempting existing notices for a period of five years. Mr. Brodie is of the opinion that nothing less than such drastic powers will satisfactorily enable authorities to preserve the amenities of their districts, and suggests that a resolution should be passed by the Council to that effect. He also calls attention to the very stringent regulations now existing in France, under which hoardings are taxed 2*l.* per square yard if not exceeding 12 sq. yds. in area, with a graduated scale rising to 16*l.* per square yard on advertisement panels larger than 20 sq. yds. in area, while at Potsdam in Prussia no advertisement hoardings are allowed within 400 yds. of a railway under very heavy penalties.

We think the subject is one of the utmost importance to all those who value beauty, and we see no reason why traders should oppose the most stringent of regulations. The value of advertisements which disfigure our buildings and public places is almost wholly a comparative one, and at present the small commercial undertaking is hit very heavily in its attempt to prevent itself from being outdone by its richer rivals. The average man would purchase the same amount of goods with or without the presence of advertisements, and any system under which the expenditure of the same amount of money would give equally relative prominence as at present would be fair all round.

For this reason the foreign system of taxation appeals to us, for we think all must agree that advertisements are evils *per se*, and that the authorities which permit them under restrictions should derive some monetary compensation for so doing. The only trade which would really be damaged is that of the printer, and the main point for consideration must surely be the greatest good of the greatest number.

THE usual fortnightly meeting of the Royal Institute of British Architects was held on Monday at No. 9, Conduit-street, Mr. R. Blomfield (President) in the chair.

### Votes of Condolence.

Mr. G. Hubbard said he had to announce with regret the decease of Mr. T. H. Watson, District Surveyor of St. George's, Hanover-square. The deceased was a member of the Institute for something like fifty years, having been elected as far back as 1862. He was amongst the first batch of candidates who sat for the Voluntary Architectural Examination when it was first established in 1863, and he subsequently passed in the class of Proficiency. In 1866 he again presented himself for examination, and passed in the class of Distinction. In 1864 he was awarded the Soane Medallion for a design for an Academy for the Study, Practice, and Performance of Music. In 1877 he was elected to the Fellowship. Mr. Watson served on various Committees of the Institute, and was a member of the Statutory Board of Examiners. He also filled various offices in the Architectural Association, including the Presidentship in 1870-71. He gained the Royal Academy Studentship and also the Royal Academy Gold Medal. Mr. Hubbard moved that the regrets of the Institute at the loss sustained be entered in the minutes and that a message of sympathy be transmitted to the widow and family of the deceased.

Mr. W. H. White, in seconding the motion, referred to the integrity of the deceased, and expressed the hope that an effort would be made for his Royal Academy Studentship drawings to be kept with the Institute.

Mr. W. Woodward also supported the motion, and observed that the deceased was a lover of fair play and a lover of his profession. He advised young architects to examine a work by Mr. Watson on the east side of Regent-street. There the deceased simply added a story, but they found an intense artistic feeling very seldom shown in such a simple work.

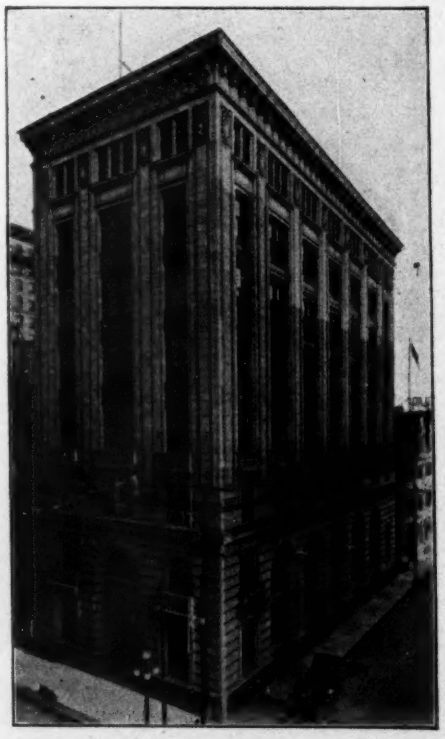
The President remarked that the deceased was a man of refinement and an admirable draughtsman, and one who really had a genuine passion for architecture.

The motion was carried in silence.

Votes of condolence were also passed to the relatives of the late Mr. Fredk. Thomas Reade, Hon. Associate, elected in 1877, who some years ago read a paper before the Institute on "Steel Construction"; and of Colonel Francis Robert Newton Haswell, of North Shields, elected a Fellow in 1872.

### Sir T. G. Jackson.

The Secretary read the following letter, received from Sir Thomas G. Jackson:—"Will you kindly convey to the Royal Institute of British Architects my grateful thanks for the kind message of congratulation on the honour lately conferred on me. No congratulations can be more welcome than those of my brother architects, and I value this all the more because I think, in my humble person, some honour has been done to the great art we all profess and love."



**Standard Bank, Toronto.**

Messrs. Darling & Pearson, Architects.

## CANADIAN ARCHITECTURE.

The President, in introducing Mr. F. S. Baker, remarked that he had crossed the Atlantic to read a paper on Canadian architecture, and it was characteristic of the energy of the Canadian people that he only arrived in this country at nine o'clock that morning.

Mr. Baker then read the paper, the following being an abstract:—

Before he spoke of "Canadian Architecture" the lecturer said he would say a few words about the general conditions which surround the profession of architects in Canada.

As in England, the system of "pupilage," but without fees, is the most common commencement for the would-be architect. In four of the Provinces—Quebec, Manitoba, Saskatchewan, and Alberta—the title architect is protected by law, and no one may call himself an architect unless he has complied with the law and qualified by passing certain examinations prescribed by the Act. A fifth Province—Ontario—also has an Act, but, owing to the insertion of the word "registered" before "architect" by the Government of the day, it has no effect, and anyone who pleases may call himself "architect." The remaining Provinces are all organising with a view to obtaining legislation similar to that in force in the four Provinces above named. In all of these four Provinces the degree of Associate R.I.B.A. is accepted as a satisfactory qualification for admission to membership at present. The Universities of these Provinces, including Ontario, have special courses in architecture and issue degrees. The best of these is at McGill, in Montreal, which Mr. Capper and Mr. Nobbs have largely helped to its present condition of efficiency. The number of students entering the profession is as yet very small, and architects have to rely upon the British Isles and the United States for skilled assistants. I do not recall a time in the past ten years when there were more than enough. Owing to the fact that in Canada the builder takes out his own quantities, drawings have to be made very complete, and this has tended to raise the quality of draughtsmanship throughout the country, and, incidentally, gives the student a chance to learn details of the work which an English student does not come in contact with. If this can be said in favour of the lack of quantities, the opposite must be said in the difficulties occasioned the practising architect in dealing with builders, owing to the lack of the system in vogue in England. At present there are no travelling scholarships in architecture, and the necessity for these is becoming more and more apparent. Private "ateliers," in which practising architects of the younger school mostly are patrons, are available for the students in many of the large towns during the winter. It has been said that "the next fifty years will decide the character and type of Canadian architecture," but, having regard to the extreme youth of the country, such an event would seem to be most unfortunate, and I for one would like to feel

that the students of fifty years hence will have something to strive for in creating a greater excellence than the art will then have reached in Canada. It should be said, however, that the classic orders are fairly well understood, the value of proportion appreciated, and the application of ornament and mouldings handled in a conservative way.

The climate, of course, has a great deal to do with the nature of the buildings in the various parts of Canada. A country which extends for 3,500 miles must, of course, show considerable variation in that respect. Provision must be made by the architect against extreme cold, with accumulations of snow and ice, and extreme heat, conditions of extreme moisture and extreme drought, of the most brilliant sunshine and dull days, of perfect calm, and wind storms which often reach the proportions of cyclones.

As to building materials, splendid marbles are now procurable suitable for almost any purpose. Building stones are only fairly good, and much stone for face work is imported. In the eastern part of the country very fine granite is obtained, and also in Central Ontario. Good limestones are quarried in the Eastern Provinces, and throughout Ontario and the West in many parts. The Portland cement produced in Canada is excellent; everywhere fine grit sand is obtainable, and good limes are burnt in nearly all districts. Canadian bricks are well known for their excellence, but the production of terra-cotta, other than hollow blocks, for fireproof construction work is limited. Steel sections are rolled from Canadian ore in nearly all the large centres, but an enormous quantity of structural steel is imported from the United States, Great Britain, and Germany. Castings in metal of good quality are easily obtainable. Canadian woods are well known. Wood of all kinds is becoming more and more difficult to obtain, and the price is advancing, with the result that what is known as "fireproof construction" is becoming more and more popular. Sheet metal, galvanised iron, and copper is almost entirely imported. Sheet lead is, of course, scarcely used for flashing purposes, owing to the large range of temperature which prevails. Paints and oils are produced on a large scale, and of excellent quality, but the high grades of glass are as yet mostly imported. Sanitary pipe and fittings, as well as fixtures, are manufactured, but a large quantity is also imported, especially porcelain fittings, which come from Great Britain and the United States. Gas and electric pipe, fittings, and fixtures, with all kinds of glassware, are made in most localities. Tiles are not produced in Canada in any quantity, but are largely imported from Great Britain, the United States, and Holland.

All of the large centres are provided with stringent building laws; plans are passed upon by building departments, whose inspectors issue permits before the work is allowed to be proceeded with. A constant inspection is also made of the work during its progress by these departments. This system extends to construction and sanitation and the relation of buildings to localities, but does not in any way interfere with the architectural or artistic qualities of the building. That the duties of these departments may be extended in the near future so as to criticise the quality of the design is not an improbability. The fact that every city is giving careful attention to town planning, driveways, park systems, and suburbs is having an excellent moral effect in the development of the artistic tastes of the people.

Most of you will have read an article which appeared recently in a London architectural paper, entitled "Imperialism and Architecture."* It states that U.S. American "ideals and methods of expression" are being appropriated by Canadians, and that "in Vancouver, Toronto, and Montreal the largest and handsomest buildings are the works of American architects." With regard to the first statement there is not the slightest doubt that Canadian architects have been experimenting along U.S. American lines in the designs of all classes of buildings. I can say definitely, however, that American ideals and methods of expression are not being adopted any more than those of any other country, except in so far as they apply more conveniently to conditions in Canada. In the matter of design, I believe I am right in saying that the British influence is much the strongest one affecting Canadian architects, who, generally speaking, are strong Imperialists. The other statement is, of course, misleading. I know of only two large buildings in Montreal which have been erected in the last twenty years under U.S. American architects.

* See our issue for September 27, 1912.

**Royal Bank of Canada, Westmount, Montreal.**

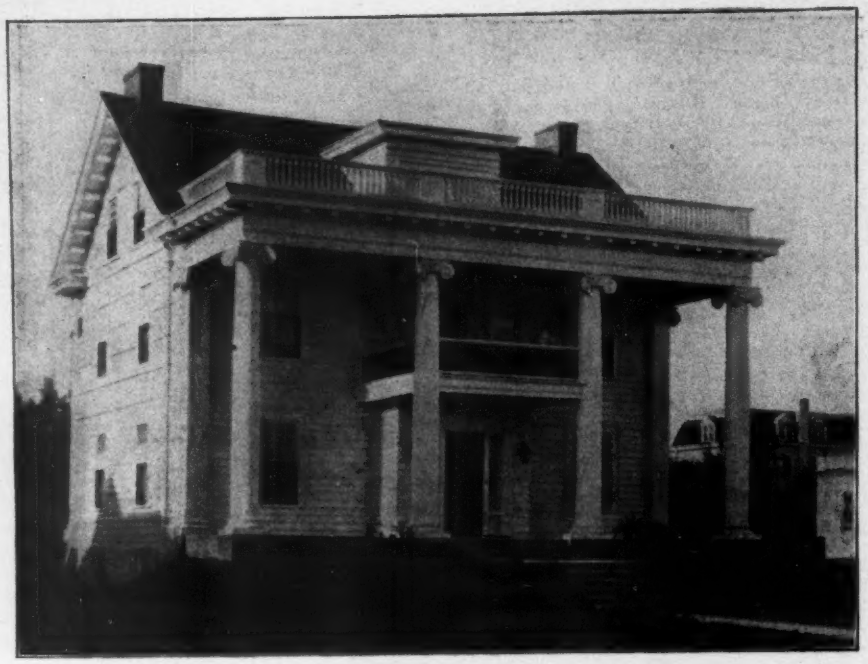
Messrs. E. & W. S. Maxwell, Architects.

The lecturer then referred to some works which had been carried out, including the Federal Government Buildings at Ottawa and the buildings which house the Provincial Legislatures in each Province. Of the Provincial buildings, that recently completed at Victoria is perhaps the most notable. This design was also the result of a properly-conducted competition amongst Canadian architects. The city hall, or municipal building, has not risen to any great height as an architectural creation. The buildings at Toronto are of interest because built in a sort of Romanesque style of a beautiful dark-brown local stone, the supply of which has, unfortunately, become exhausted. Island sites are nearly always obtained for these buildings, and in many towns these are also occupied by an open-air farmers' market. The post-offices throughout the country are rather a better-class building. They are built and controlled by the Dominion Government. Of the law courts and court houses the most notable building is undoubtedly that at Toronto, known as Osgoode Hall, the main block of which is a most interesting building, both externally and internally, and a charming bit of architecture.

Canada has many splendid hospitals, and there is perhaps no other type of building to which so much study has been given by architects. A Canadian architect asked to build a hospital places it above in importance any other building placed in his charge.

The wholesale warehouse is a very distinct type of building, and is usually a fine structure. Lately these have been built of fireproof construction, reinforced concrete, or steel frame with tile or concrete casing. Most of them are fitted with automatic sprinkler installations and every other known method of preventing fire. In this way the cost of insurance on building and contents has been reduced to a nominal sum, even in the most congested districts of the large cities. All staircases and elevators are enclosed within masonry walls, with metal-covered doors; the window frames and sashes are of metal, and they are glazed with wired glass. In addition to this, automatic fire-shutters are frequently used. Automatic fire-doors are placed on all communicating doors, with metal or stone sills. Fire walls are carried up at least 3 ft. above the roof, and cornices or other projections containing combustible material are not permitted. The actual floors are often of concrete or composition, but are frequently of maple or Georgia pine on sleepers bedded in the concrete. Electric wiring is placed in armoured conduit, and all boiler-rooms are absolutely fireproof. These floors, like the large stores, are also in single lofts, unless sub-division is desired by the owner. There are also a large number of warehouses built in what is known as slow-burning or mill construction, in which no hidden spaces through which fire can gain headway are permitted. In these the posts are of wood placed rather close together, with a wooden beam stretching between them and to the walls, on which is laid a flooring of 4-in. Georgia pine joined with oak splines, and having a finished floor of maple or Georgia pine.

Perhaps the most ornamental buildings throughout Canada are the banks and their



**House, Winnipeg.**

Mr. H. B. Rugh, Architect.

branches. There are some thirty chartered banks in Canada, and many of these have upwards of 300 branches each. The designing of these banks has brought out perhaps more good architecture than any other type of building in the country, as so much work of a high class is involved.

The author also referred to Canadian offices, hotels, houses, libraries, art galleries and museums, churches, theatres, shops, educational buildings, and dwellings of the people. The dwellings of the people are most creditable. Although Canada is a wood country, wooden houses do not predominate; they are mostly of brick or stucco. Many of those which are apparently brick have a wood frame, with a brick veneering of the thickness of half a brick, and this type of house is a wholesome and satisfactory one.

Mr. Baker showed slides of the following:—

Queen Victoria Monument, Ottawa.
Administration Building. Parliament Buildings.
Library Building, Interior.
Toronto City Hall.
Winnipeg Post Office.
Vancouver Post Office.
Osgoode Hall, Toronto.
Royal Victoria Hospital, Montreal.
Home for Incurables, Parkdale.
Public Library, Toronto.
Art Gallery, Toronto University.
St. James Cathedral, Toronto.
St. Alban's Church, Glenwilliams.
R. Simpson's Stores, Toronto.
Warehouse, Toronto.
Factory, Toronto.
Canadian Bank of Commerce, Montreal.
Branch of Traders Bank, Sudbury.
Canadian Pacific Railway Building, Toronto.
Château Laurier, Ottawa.
Terminal Station, Ottawa.
Alexandra Theatre, Toronto.
Engineering Building McGill University, Montreal.
Toronto University School.
Royal Canadian Yacht Club, Toronto.
Residence of Mr. O'Hara, Ottawa.
Hunt Club Building, Scarborough.
Metropolitan Church Parsonage, Toronto.
Interior Flavelle Residence, Toronto.
Residence of J. W. Flavelle, Toronto.

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**The President**
remarked that they were fortunate in having with them Mr. Herbert Baker, who had made a brilliant reputation in South Africa by his work and by his courage and generosity in establishing a scholarship in the School at Rome for future South African architects. They had also with them Mr. J. G. Colmer, a distinguished Canadian, who was one of the leading representatives of the Dominion in this country.

**Mr. Herbert Baker,**
in moving a vote of thanks to the author, said they had seen how progressive Canadian architects were, and this was only to be expected by those who knew the people, and also realised that they had as their immediate neighbours the most energetic of all nations, and who, particularly in their architecture, had shown such titanic powers. He was glad, however, to hear that Canadians had no intention of being swallowed by their titanic neighbours any more in their architecture than in their nationality. He was one who believed that the saying of "Art for art's sake" was a dangerous one. It took them along the primrose path of dalliance, but it did not take them up the thorny path to Heaven. The thorny road was that of interpreting and giving expression to the vast national feelings of their race and nationality. If Imperial Federation ever became a real fact then architects all over the Empire had to study and prepare and be ready to give expression to those ideals. But if they had unity in their architecture, as well as their nationality, it did not mean either in architecture or politics that they had to give up national individuality. That indeed would be impossible; climatic reasons alone forbade it. It was not sufficiently realised in this country how great an effect climate had on architecture. The saying in Italy was that only dogs and Englishmen walked in the sun, and sometimes, in reading text-books on architecture, he felt that the authors were always walking in the sun, and did not realise that most Southern nations rather looked on the sun as an evil deity. If they lived under a sub-tropical sun they would realise the enormous effect it had on architecture. He did not think Gothic architecture had developed so much from national characteristics or the crusading spirit, but rather because it brought sun and warmth into the building. Therefore, as the author had described, climate had a great effect on architecture, and the individuality of a people would give a peculiar and distinct individuality to the architecture. The question arose as to how best they could get the imperial spirit into architecture, and he thought it could be done in two ways—first, through the Institute, which had to be a mother to all the children in the colonies; and, secondly, through the British School of Rome. Although there had been four or five South African students at that School, there had not been one from Canada, and he hoped Mr. Baker would take back that fact to Canada, and that in the near future they would find some Canadian students in the School.

**Mr. J. G. Colmer**
seconded the motion, and remarked that Mr. Baker, in his desire to be modest, had somewhat underrated the importance of architecture in Canada. He thought no visitor to the country could fail to be impressed with the character of both the private and public buildings. Mr. Baker had spoken of the opportunities for architecture in Canada, and that was a matter about which he had some experience. He had known a good many young architects go from this country to Canada with letters of introduction, who seemed to have fallen on their feet at once and had not been long in making a reputation for themselves, and also in making money. What he liked about Canada was that there was no professional jealousy; and if a young architect went out he was welcomed and given every assistance and counsel and advice, and he was regarded as an additional factor in helping to build up the country of which the Canadians were so proud. Mr. Baker had mentioned the absence of art galleries, which unfortunately was true, but in a young and vigorous community like theirs they were all busily engaged in making money, and did not devote so much time as did older countries to things they regarded as luxuries. There were, however, several magnificent private collections in the country.

**Mr. T. H. Mawson**
said he was surprised at one or two observations of the author. He thought the English influence on Canadian architecture was very strong between 1870 and 1890; but since then other influences, and, he thought, better influences, had been at work, and, it seemed to him, the Boston Technical School, the École des Beaux-Arts, and the firm of McKim, Mead, & White were the strongest of all. Mr. McKim had said that at the age of thirty-three he visited Italy and got his great conversion; that he there got the key which interpreted all the ideals and longings of his early life; and he came back to America, where his influence had been strong. They found also that his influence was very strong in Canada now. They also found that a large number of Canadian architects had had some years of training in the École des Beaux-Arts, and French ideals had been grafted on to the strong Canadian native stock. It was the help obtained from England in its domestic architecture, and the influence of the École des Beaux-Arts and of the American school, and the adaptation of anything which expressed its great ideals, which was making the architecture of Canada to-day. It was the combination of influences which was giving them magnificent work. Canadian art had attained a very high standard of excellence, and it was a real live art which would have a great influence on the architecture of that Empire, of which they all formed part.

**The President**
also supported the vote of thanks, and remarked that the author had said several very suggestive things. It was quite clear that their colleagues in Canada were addressing themselves to the problem of architecture in a very practical and strenuous spirit and were going to the essentials of the matter. That was to say, that in their banks and public buildings and hotels they were quite determined to have something which would answer the purpose; and, after all, that was the first thing they all had to do. He gathered that Mr. Baker was responsible for some beautiful buildings which his modesty prevented him showing them. There was, of course, a point at which a country such as Canada, with all its splendid promise, must pause, or, to use a vulgar phrase, must be "stuck up," because it had not a tradition of architecture, and it was there that England, as an old country, might be able to help them. Of course, in this country they were somewhat like the Prodigal Son, because they had not only one tradition but several, and had squandered them all; and their business now was to build up a tradition. But, although they were prodigals and bankrupts and other things, they could not escape the consciousness of a great and historic past in architecture, and it was in this consciousness that the hope of the architecture of the future of this country rested. He was sanguine enough to feel that the hope was not without foundation. Both the author and Mr. H. Baker had told them that the Institute was regarded with high esteem and affection in Canada and South Africa. That was welcome, because the Institute had weathered many storms and might have to weather others, and loyalty from those who were practising architecture in other countries was one of the most encouraging things he knew of. Mr. Baker also told them that the British influence was the most predominant influence on Canadian architecture, and it was very significant that both the author and Mr. Nobbs, the professor of the McGill University, had urged the same idea and had asked for replicas and reproductions of all the best work done in this country in the past, such as was to be found in the Trocadero, in Paris, of the great French work. It was a very important appeal. They had their museum in Tufton-street, but must admit it was inadequate. They ought to do all they could to help the appeal. Canada had

shown its splendid patriotism and feeling to the Mother Country, and he trusted this appeal would not pass unheeded at Whitehall, for the Government were the proper people to take up such a matter. They had heard an anticipation of the future of Canadian architecture in the next fifty years, but he would not like to see it follow that path. He thought the neighbours of their great Dominion had possibly overreached themselves in following a little too impetuously modern French architecture, because that was not the same thing as old French architecture. He would be the last to disparage the work of his colleagues in France, but, still, the modern vernacular of French architecture was not a thing to be adopted as the basis of a great tradition. He hoped the future architecture of Canada would, at any rate, be founded on an old tradition, and whether French or English it was for their colleagues in Canada to determine. If they followed that tradition they would have no difficulty with their immense force of character in establishing a great tradition of architecture, and that tradition would be perfectly elastic and perfectly adaptable to all the conditions of modern civilisation. He looked on the new School at Rome as one of the most important departures in architectural education in the last fifty years, because, if it was properly handled, great things would come out of it, and they would hope to see soon some of their brilliant young Canadian colleagues at work there.

The motion was carried.

**Mr. F. S. Baker,**

in reply, said he would certainly make it his business to bring full particulars of the School at Rome before Canadian architects, but they must realise that their students were few in number, and were not well off. The sons of rich men in Canada looked for some easier work. He agreed with Mr. Baker as to the influence of climate on architecture, and it would, of course, be absurd to use delicate Spanish cornices in Canada, where they would only be covered with ice. The highest tribute must be paid to Messrs. McKim, Mead, & White for the wonderful buildings they had produced, but there was in Canada a feeling that this school was not altogether a desirable one. There was a desire to follow tradition which went back beyond any result which McKim, Mead, & White had attained. There had arisen now a school of collegiate Gothic architecture, and he had some photographs which indicated a good future for it. That was based on the sound tradition of English architects, and most of their students were filled with the idea not only in architecture, but in almost everything that England had experimented and "dried out," and finally arrived at conclusions which might be called conservative conclusions, and that if they followed on these lines they would be about right. It was easy enough to fly off and try new things, and at present in the United States they had been trying the five Orders. But better work was coming along, and it was as much apparent in Canada as in the United States The buildings for art galleries would be forthcoming when the collections could be obtained, and they had to look to England for these collections. The École des Beaux-Arts had been spoken of as if Canadians were strongly influenced by it. This idea was largely owing to the work of Professor Norris, but the school was not held in very high esteem in Canada. It was fully recognised that while the old French work was good, the modern French methods of draughtsmanship were not so much to be desired. Something straightforward and useful and sensible was what Canada was looking for.

### Award of Prizes, etc.

The Secretary then read the Deed of Award of Prizes and Studentships for 1912-13 made by the Council in writing under the Common Seal in accordance with by-law 71.

The awards were as follows:—

Institute Silver Medal and Twenty-five Guineas (Essays).—Mr. W. J. Davies, 35, Morley-road, East Twickenham. Awards of Five Guineas.—Mr. Martin Shaw Briggs, 14, North Audley-street; and Mr. C. Percival Wal gate, Royal College of Art, South Kensington.

Institute Silver Medal and Ten Guineas (Drawings).—Mr. H. C. Mason, Kelsick-road, Ambleside. Certificates of Hon. Mention.—Mr. W. Leonard B. Leech, 9, Belgrave-square, Nottingham, and 28, Egerton-gardens, West Ealing; Mr. Gordon Hemm, Fern Lea, 16, Manchester Road, Heaton Chapel, near Stockport; and Mr. Bernard Preston Gaymer, Bedford-row Chambers, 42, Theobalds-road, W.C.

Soane Medallion and 100*l.* (for Continental Travel).—Mr. J. M. Whitelaw, 10, Great Ormond-street. Certificates of Hon. Mention.—Mr. H. Chalton Bradshaw, Hillside, 30, Heathfield-road, Wavertree, Liverpool; and Mr. R. W. Cable, 13, Acre-lane, Brixton, S.W.

Owen Jones Studentship: Certificate and 100*l.*—Mr. W. Harvey. Certificates of Hon. Mention.—Mr. H. P. Huggill, Mr. Ivor Beaumont, and Mr. Walter M. Keesey.

Pugin Studentship: Silver Medal and 40*l.*—Mr. W. Paterson. Certificates of Hon. Mention.—Mr. J. Hill and Mr. F. R. Howard.

Tite Prize: Certificate and 30*l.*—Mr. Cyril A. Farey, 10, Great Ormond-street. Certificate of Hon. Mention.—Mr. Bryan Watson, 20, Queen-square, W.C.

Arthur Cates Prize: Forty Guineas.—Mr. Charles Fredk. Butt.

Grissell Gold Medal and Ten Guineas.—No award.

Godwin Bursary: Silver Medal and 65*l.*—Mr. Charles Holden, A.R.I.B.A.

Henry Saxon Snell Prize: 60*l.*—Mr. Vincent Hooper, A.R.I.B.A.

Ashpitel Prize.—No award.

The President announced that the next meeting would be held on February 3, when the Presidential address to the students would be delivered, and Mr. Curtis Green would give a criticism of the works submitted for the prizes and studentships; and the presentation of prizes would also take place.

## THE ARCHITECTURAL ASSOCIATION:

### EXHIBITION OF DRAWINGS BY THE LATE NORMAN SHAW, R.A.

THE drawings now on view at the galleries of the Architectural Association should be seen by all who are interested in architecture. The recent death of Mr. Norman Shaw has focussed public opinion upon his work, and much has been said of the lasting influence he has exerted upon the whole course of English architecture.

In this exhibition of his drawings we see the progress and development of his mind, with its amazing versatility and never-failing power of expression. The early sketches of Gothic detail are here, and the country houses with a strong Gothic feeling in them; then a period in which Flemish influences alternated with the Queen Anne manner in the town houses, and finally the great classic houses of Bryanston and Chesters and the severe designs of the Regent-street Quadrant. It is a record of amazing activity, and throughout the forty years of recorded work the same clear, firm drawing is evidenced and the same beautiful handwriting. Many are the entertaining notes with which the drawings are covered, instructions to workmen, hasty comments by a busy man who wants to reconsider a point, and jottings that reveal the character and moods of the artist. Some of these slight studies are not meant for the public eye, but they show us the stages by which he arrived at the masterpieces of architecture he has left to us.

Sense of spaciousness and fine scale are to us the key notes of Norman Shaw's work. The plans have fine entrances and halls (even in narrow London houses), the rooms are all beautifully proportioned, and the external expression of this generous planning is naturally fine and noble. Every detail is perfectly thought out, and there is a marked absence of hurry about all his work.

The order in which the drawings are arranged is roughly chronological, and we come first of all to some early houses before 1870. The Bedford Park Estate drawings are familiar, but the original working drawings of the church of S. Michael will be seen with interest. "Merrist Wood" is a well-known early house, with an interesting plan of which many later developments are to be seen. "Cragside" is only shown in some fragmentary studies for the tower, but these are of great interest seen in conjunction with the perspective views. A fine fireplace is fully illustrated by detail drawings.

The Swan House at Chelsea is well shown in the perspective, plans and detail of construction. The last is a carefully-worked-out drawing of the steelwork, which will be seen with special interest. An excellent set of drawings illustrates Preen Manor. The detail of the half-timbered gables is one of the most interesting drawings in the room. Pierrepont in Surrey, a well-known original perspective; Leys Wood, and many lesser-known houses, will be seen together.

The English Church at Lyons, with its great vertical lines, stands against All Saints, Leek, with its strength and originality. The complete set of drawings of this church will be of exceptional interest to the visitor. The number of churches that Mr. Shaw designed will come as a surprise to many who do not know his work well, and here they can see at least a dozen examples, all interesting and delightful.

The drawings of Dawpool in Cheshire are well arranged, and among them stands out the large drawing by Professor Lethaby of the great fireplace, which is most suitably placed in a central position. Dawpool has perhaps the great qualities of Mr. Shaw's powers in a pre-eminent degree, and represents the culmination of a period of his work. Addington Palace is a little-known subject perhaps, and the pencil details of the hall will therefore be seen with interest. The full size details, with enrichments beautifully drawn, call for special notice.

Some of the well-known houses in Queen's-gate are well illustrated with complete working drawings and photographs, and their great qualities will be more keenly realised than ever before after careful study. Bryanston and Chesters are shown in a very few drawings, all that could be got together, and they will make the keen student wish to see the complete set of drawings. New Scotland Yard is fully illustrated by working drawings and photographs. Flete, in Devonshire, is well shown in many pencil studies full of interest. Some very fine detail drawings of ornament for Parr's Bank at Liverpool will be to many the most interesting things in the room, their quality as drawings is so firm and beautiful.

Many rough pencil sketches for portions of the Regent-street Quadrant will be seen for the first time with intense interest.. Some of these are more fanciful than practical, but they are always great in the ideas of which they are the record. The large elevations of Regent-street, and the much-discussed corner towards Piccadilly Circus, with some details, will excite interest, whatever view the critic may hold of their practical failings. Here is fine architecture, and nothing less than this ever came from Mr. Shaw's pencil.

The Architectural Association are to be congratulated upon their initiative and energy in bringing this collection of drawings together, which will be a mark of progress in their recent policy of holding representative exhibitions from time to time.

The galleries in Tufton-street will remain open until four o'clock to-day.

## THE PASSING OF THE DISCONNECTING TRAP.

BY W. D. SCOTT MONCRIEFF.

IT will no doubt come as a great surprise to many a householder, who has any knowledge of sanitation, that his disconnecting trap has been the subject of much unfavourable criticism, and that a Departmental Committee, after an investigation extending over four years, has practically condemned it as being both useless and insanitary. Whatever the outcome of this report may be it has at any rate had the effect of showing that there is a wide divergence of opinion, and this has been much in evidence since Mr. Boulnois read a paper before a sessional meeting of the Royal Sanitary Institute on November 12 last. The paper itself was quite a model of how such a subject ought to be introduced for discussion, and anyone desirous of obtaining a clear synopsis of the arguments cannot do better than read it for himself.

For more than thirty years the British householder has been led to believe that he was not only in the van of progress with regard to his domestic sanitation, but he was confirmed in this belief by the fact of local authorities and their experts having committed themselves to the promulgation of by-laws, generally accepted as infallible. One effect of this recent recantation of professional opinion will be to detract very seriously from the ratepayers' reliance on the *ex cathedra* attitude of the expert.

Whatever the outcome of the discussion may be, it is obvious that the facts have been

available for many years, and if both the principle and the practice of house disconnexion were wrong the responsible Government Department, the local authorities, and, above all, the experts ought to have found it out long ago. It appears that there was some doubt as to the value of the disconnecting trap so long ago as 1882, when Mr. Read, the Surveyor of Gloucester, suggested that all house drains should be used as upcast shafts to ventilate the sewers, but it was not until Dr. Butler read a paper entitled "Is the Intercepting Trap a Failure?" before the Royal Sanitary Institute in February, 1906, and Mr. Read followed with another on the same subject that the abolition of the trap became a matter for serious discussion.

The case against the disconnecting trap has been put as follows:—

(*a*) That it is always a positive obstacle, and is never clean.

(*b*) That it is the main cause of the blockage of house drains, with all the attendant evils.

(*c*) That it contains sewage which, under certain circumstances, is in an advanced state of decomposition, and is the chief cause of bad smells in the sewers.

(*d*) That the primary object of good drainage, to get rid of the fouled water expeditiously is defeated.

(*e*) That it is, at best, an insufficient safeguard, liable to be forced by air pressure at any moment.

(*f*) That it forms no obstacle to the passage of rats.

(*g*) That the supposed dangers of sewer air have been greatly exaggerated.

There is ample proof in the Departmental Report that none of these contentions have been put forward without much evidence to support them, but at the same time it cannot be overlooked that a vast number of householders have their own experiences to guide them, and it will not only come as a surprise to many of them that their disconnecting traps should meet with such reprobation, but they will in many instances come to the conclusion that in their own case at any rate the statements are quite unjustified by the facts.

For the most part the evidence that led to the inquiry was obtained from houses occupied by people who are quite indifferent to the state of their domestic sanitation so long as it works at all. There are certain obvious mechanical defects even in the best disconnecting trap. In the nature of things it is an obstruction, but in a very different sense between the time during which it is running clear and when it happens to be the receptacle for a scrubbing brush. It would be invidious to suppose that one suburb of London differs much from another as regards indifference and carelessness, where the population have much to do and little time to do it in, but there is no doubt it was the indifference of one particular suburb to the disappearance of its scrubbing brushes and other domestic appliances that has led to the outcry and which to some extent has been its justification.

The last contention—"That the supposed dangers of sewer air have been greatly exaggerated"—touches upon delicate ground and is based upon what may almost be spoken of as fashionable evidence.

If the science of bacteriology had preceded that of hygiene it seems as if its principal business would have been to retard progress, and it is a weak point in the report of the Departmental Committee of a Government Department that on the strength of a great amount of purely negative evidence they should make light of the dangerous character of sewer gas in order to support their arguments. Their proposal is that every householder should contribute his quota to the ventilation of the public sewers by giving the local authority the free use of his ventilating pipes after the removal of his disconnecting trap. If it could be established that ventilating the sewers on or about the level of the bedroom windows of at least four-fifths of the population was a danger to health there would be no more talk about doing away with the only protection we know of, and so it became necessary to show that the dangers of sewer gas had been exaggerated. Investigations made long before the report of this Committee went to prove that there are conditions prevalent in the majority of sewers that favour the elimination of micro-organisms in the air contained in them. The same results were obtained by Professor Tindale in well-known experiments he made many years ago, but these natural and automatic operations have very little bearing on the cases of death directly due to the action of sewer air which were mentioned in the course of the discussion, and it would be poor comfort to anyone who found himself, like one or two gentlemen who joined in the discussion, almost *in articulo mortis* in a sewer, to know that the majority of the organisms were adhering to its surfaces. As one of the speakers at the Royal Sanitary Institute said very truly there are sewers and sewers, a remark which was punctuated by considerable applause.

As the result of many elaborate experiments it has been shown that the vagaries of air movements in sewers are very difficult to account for. The variations of the atmospheric pressures lead to the most unexpected results, and no one could guarantee that under certain conditions, which it would be impossible to control, the gases from a sewer might not pour out from the ventilating pipe of a particular house during a calm night, and pour in through a bedroom window. Such a contingency with the further possibility of the same bedroom being occupied by an invalid no doubt was considered by those who originally accepted the disconnecting trap as a fundamental requirement. They at any rate would be well pleased to know that in the opinion, even of the advocates of its abolition, it may be relied on to do what has been claimed for it.

On page 16 paragraph 50 of their report it is stated that "on the whole, therefore, it would appear, according to the evidence presented to us and according to our own experimental observations, that under practical conditions the intercepting trap usually answers its purpose as a barrier to the passage of air from the sewer into the house drain."

Coming from such a quarter the average householder will no doubt regard this statement as an excellent certificate of efficiency, and that, in spite of its defects, his disconnecting trap is giving him a good return for his money.

It would be too long an undertaking to deal with all the arguments of the Departmental Committee in detail, but, reviewing their most painstaking work as a whole, the following conclusions may be fairly arrived at:—(*a*) That there is a great amount of carelessness among the occupiers of small houses in London and its suburbs; (*b*) that insufficient flushing is enough to account for a large number of the cases in which disconnecting traps were found fault with and that the flushes from waste-preventing cisterns are frequently inadequate; (*c*) that in consequence of this deficiency the house drains themselves would contribute as much as the contents of the disconnecting traps to rendering the sewers offensive even if the traps were done away with; (*d*) that the figures given in the report in the form of percentages of defects among houses that were inspected by the Departmental Committee were largely in excess of others given by surveyors of equal authority who joined in the discussion.

Experience has begun to show that no forms of argument require more careful analysis than those which depend upon statistics for their confirmation. Even a cursory reading of the Departmental report shows that the inception of the inquiry came from those who were satisfied from their own observations that the traps were a failure. It naturally followed that they made a point of collecting further evidence to support this contention, and, when the amount was sufficient in their opinion to justify their conclusions, they proceeded to issue their report. Not only have their labours been enough to satisfy themselves, but they have had the effect of satisfying a good many other people, including the reader of the paper at the Royal Sanitary Institute, who seems to have kept an open mind on the subject as long as he could do so. It is a very different matter, however, when the arguments based upon one set of figures are examined in the light of others that have an absolutely opposite effect. To take a single instance. Dr. Philip Boobbyer, of Nottingham, stated that "there were large hospitals in his district, each having six of these intercepting traps, and one having sixteen. He had had occasion repeatedly to examine the drainage system in the last twelve years, and only twice in that period had he found an intercepting trap on these systems to be completely obstructed."

The next speaker, Mr. T. de Courcy Meade, of Manchester, stated that there were 23,248 intercepting traps in use in that city. The ascertained average number of stoppages per year amounted to 150, or ·64 per cent. per annum. Mr. H. Johnson, speaking for Wimbledon, stated "that the percentage of stopped traps was only 1·5, why, therefore, should it be 15·8, 25·3, and 24·1 in similar places?" During the discussion on November 12 it was proved from a wide experience that obstructions of the disconnecting trap often arose from precedent accumulations in the drain itself, and, adding these cases to those of gross misuse, it then appears as if it were the users of the traps and not the traps themselves that caused the trouble.

It may well happen that certain localities might be inhabited by persons so grossly negligent that the constant obstruction in their disconnecting traps made it advisable to do away with them altogether, as the least of two evils, but even if many such cases did exist they would by no means support an argument for abolishing the traps in other neighbourhoods where there was nothing whatever to complain of.

There is one point which was referred to during the discussion on Mr. Boulnois's paper which is of considerable importance and which it must be difficult for the advocates for abolition to deal with satisfactorily. An occasional shower of rain is all that is required to keep a disconnecting trap efficiently charged and prevent the passage of sewer gas into the house drain. It is different with traps inside the house itself, as they are liable to lose their seal by evaporation when the building is unoccupied. This state of affairs is inevitable, and no remedy is possible if the only provision for protection is removed and the foul gases from the sewers, be they good, bad, or indifferent, can saturate the rooms from the attics to the basement.

There are many other points that were raised not only by the Departmental report, but in Mr. Boulnois's paper and in the discussion that followed it. The failure of the inlet valve, as a practical appliance to prevent the air in the drains from moving in an opposite direction to that which is intended, came in for a good many observations. One surveyor of great experience stated that his remedy was to place the air-inlet, without a flap or valve of any kind near the level of the ground, and to cover it with a grating. When there is any wind at all the current will be inward and towards the open end of the vent pipe, and if there is no wind then he preferred a passage of air through his house drain and out of the air-inlet rather than a discharge of sewer gas in the neighbourhood of his bedroom windows.

With this he will find many people to agree with him. But even an air-inlet can be relied upon if it receives sufficient attention and renewal. What is wanted more than anything else to bring the ordinary sanitary arrangements of a small suburban dwelling to a high standard of efficiency is not any great change in the existing devices, that are the outcome of many years of development, and still less doing away with them, but the more essential details of keeping the grease out of the drains and the provision of an ample flush of water.

As these essentials are not likely to be realised in the near future it follows that in a certain class of property the sewage problem is still to a certain extent illusory and difficult of solution. It has proved to be even more so in the obscure conditions that are required for its satisfactory disposal. This to many persons constitutes its principal fascination. In spite of all this, however, the people who look after their sanitary arrangements themselves or employ others who are competent to do it for them may regard the existing sanitation of their houses, if it has been properly carried out to begin with, as thoroughly satisfactory.

It rather appears as if the zeal of the Departmental Committee had led them a little too far, and that "The Passing of the Disconnecting Trap" is not an event that is likely to happen in a hurry. What they have succeeded in showing is that from various causes that are more or less preventable, and that should never exist, disconnecting traps may be regarded as worse than useless. It does not by any means follow that they should be universally condemned, and it is not probable that they ever will be until some better plan has been proposed than doing away with them altogether.

# THE SOCIETY OF ARCHITECTS:

## THE INFLUENCE OF SANITARY SCIENCE ON THE COMFORT OF COUNTRY HOMES.

A MEETING of the Society of Architects was held on the 16th inst., when Mr. Herbert Freyberg, F.S.I., read a paper on "The Influence of Sanitary Science on the Comfort of Country Homes," in the course of which he said:—

"In the application of my subject I have preferred to go into the country rather than remain in town, as in the former there is still some scope for the architect, because not only are his responsibilities greater, but his talents have almost free play in a wide field of action; whereas, in London, by the time the architect has sacrificed to the reigning deities by following the dictates of the district surveyor, by obeying the commands of the County Council, the biddings of the borough authority, the covenants of the ground landlord, the reasonableness of the adjoining owner, and last, but not least, the new-fangled pranks of the youngest corporate public body, the Metropolitan Water Board, originality is all but obliterated and enthusiasm nearly extinguished."

Having dealt with the site, aspect, and prospect, altitude, drainage of site, and geological formations, the author said:—

### Foundations.

"No settled rule can be laid down as to the depth of foundations, but they should never be less than 3 ft. below the level of the ground, and in some cases the rule of Vitruvius, *i.e.*, one-sixth of the height, will have to be followed. The danger of shifting and treacherous soils can be guarded against by the judicious use of hoop-iron, expanded metal, or steel bars with the concrete in the foundations, and by extending their superficial area.

### Walls and Partitions.

External walls ought to be solid to the level of the damp course, above which the outer walls should be carried up with a cavity, the thickness of the inner and outer skins depending upon circumstances. For a house of three floors the two lower should comprise two 9-in. walls, while the top story could have an external 9 in. and an internal 4½ in. A house of two stories could be arranged with a 9-in. and a 4½-in. on ground floor, and two 4½-in. walls above, while a cottage is satisfactory with two 4½-in. walls. Sometimes the outer skin is 4½ in., and the inner 9 in., but this section should only be used in comparatively dry and bracing positions, and where it is necessary to put much weight on the inner wall. A plinth built solid is most desirable, as the 2¼-in. external set-off balances the 2¼-in. cavity, and makes a pleasing feature in the elevation, besides making for strength in reducing the height of the hollow walls. If early specimens of domestic architecture are noticed, it will be seen how fond our ancestors were of this plinth even for the smallest cottages. Care must be taken where the hollow walls are thin that plenty of support is afforded them by cross walls. These should be built of brick on the ground floor, 9 in. in parts, and 4½ in. with 9-in. piers where necessary. The 9-in. walls can be diminished to 4½ in. on the top floor. The 6 in. of concrete increased to 1 ft. 6 in. in depth under chimney-stacks or any other weight-carrying parts, forms a suitable and level foundation for all interior cross-walls. By this arrangement we secure solid internal partitions with good support for the floors above, upon which latter any sub-partitions of solid plaster slabs can be carried.

The external walls above the plinth should be carried up hollow with iron ties at intervals with plenty of ventilation to the external air with a damp course the full thickness of the solid wall, and then just clear above the ceiling of the highest room another damp course is often put on, as for strength the wall can be made solid again and carried up in cement mortar; with a hipped roof to a building of one height it can be carried right round at the same level, viz., just under a cornice or over a string course, but at gable ends the damp course has to be stepped.

The greatest care should be exercised in the selection of the facing bricks, and one of a non-absorbent texture selected. Hanging tiles on external walls are often used for small houses, but they have many disadvantages, and it is better to spend the money on brickwork of good character.

Hollow walls have many advantages over those that are solid; not only do they keep out external moisture, but, as the inner wall is protected from the action of the outer air, the condensation so often seen on the inner face of an outer wall is avoided, and the house made warmer in winter, cooler in summer, and in all respects a more comfortable and healthier dwelling. The ideal construction is, therefore, for walls exposed to external weather, hollow, and for internal walls, solid construction of brickwork where built on the ground, and of solid slabs where carried by floors. For ceilings either plaster slabs or metallic lathing should be fixed. Stud partitions and wood lathing should not be used. Cornices and mouldings should be convex and not concave.

### Roof.

The roof, whether covered in tiles, slates, or stone, should be boarded and felted, and finished with vertical as well as horizontal battens, as by that means an air space is provided, helping towards an even temperature. Flats covered in lead or copper should, in addition to being boarded and felted, have pugged rafters, with silicate cotton or some such non-conducting material packed between. Verge boards and eaves should be made to project about 12 in. from the face of the wall, as much additional protection is thereby obtained.

### Light and Air.

Although to a large degree the position of windows must be influenced by architectural considerations, yet the chance of a particular view should provide an excuse for an additional outlook, especially at the angles of a room where often a particularly telling effect can be produced by a window projected beyond the face of the outer wall. Windows in the country can with advantage be made in greater proportion to the floor space than one-tenth, as in town, as creepers and trees are very frequently allowed to seriously encroach on the window space, or at all events to obstruct the light, therefore it is well to be prepared beforehand. It is necessary that the glass used should be of such thickness and quality as will keep out extremes of temperature, and, whether casements or sashes are used, every frame ought to be made to open.

### Windows.

The form of window frame naturally depends upon the style of architecture, and where casements are used they should be of steel, as they can be fitted to either wood, brick, or stone with equal facility. They can be obtained in a thoroughly satisfactory section for keeping out the weather, and they are not affected by damp or heat in the same way that are those of wood.

Sashes and frames are at present mostly made of wood, and, as they are not exposed to weather when open, there is not the same objection. The inside of the sill should be fitted with a moulding some 3 in. or 4 in. deep, so that the lower sash can be raised that distance without letting in dust or rain, thus permitting ventilation of the room at the proper height, viz., between the meeting rails, without creating a draught. Glass louvres should be provided in lavatories, bathrooms, etc., and can easily and inexpensively be fitted to either sashes or casements, and they should be kept permanently open.

### Ventilation.

In the ordinary country house additional ventilation can be provided by Tobin tubes some 6 ft. above the floor, with outlets near the ceiling, and by many other devices on the same principle, but it is not every client who will allow his rooms to be thus disfigured or will use the appliances if fixed. Inlet ventilators can with advantage be passed through hot-water radiators, so that the air is warmed on entry.

### Heating.

There are many systems to choose from—hot air, steam, hot water in various ways, close or open stoves for coal or coke, or those supplied with gas and electricity, with last, but not least, the dear old-fashioned extravagant open firegrate. For an ordinary country house, with from fifteen to fifty rooms, there is no doubt that the most comfortable and cheerful arrangement is the open grate for hall and other apartments, with hot water on the low-pressure system circulating through all the principal corridors, staircases, and rooms, fed by a sectional boiler, and carried out on the expansion or drop system, with radiators, also in sections, fixed at convenient points, so that sections can be added as required to boiler or radiators at any time at a minimum of trouble and expense. A rough-and-ready method of estimating the cost of low-pressure hot-water heating is to allow 8*l.* to 10*l.* per radiator; fewer radiators and the longer the run the higher the cost per radiator; 15 ft. super. of radiator should be supplied for every 1,000 cubic ft. of space to be heated. The open firegrate, although having many disadvantages, not only warms the room, but also carries off much of the polluted air.

### Smoke Flues.

Great care should be taken in carrying up smoke flues, so as to avoid a down draught. Flues should be sailed right over each way, and it is an advantage to line them with a circular fireclay flue pipe (9 in. for kitchen and 6 in. elsewhere), then, with a louvred pot, the danger from smoking is minimised, and the annoyance of dirt from smoke-damp, and also from mortar droppings, altogether avoided. Few things cause a client more anxiety than a smoking chimney. An iron inlet tube carried from the outer wall to the hearth I have found useful in cases where the owner will insist on having all doors and windows practically airtight. Chimney-stacks should, if possible, be carried up in internal walls, as the heat is preserved and a better appearance given to the elevation.

### Lighting (Artificial).

Artificial lighting can be arranged on several principles. For a large mansion where a staff of men are constantly available, the installation of the electric light is undoubtedly the best, as the engine can be utilised for pumping, sawing, and other services.

The power-house should be well away from the mansion to avoid annoyance from the working of the engine, while the battery-room should be shut off from the engine-room, but be easily accessible to the engineer. The main should, on entering the mansion, be carried to a switchboard, where distribution to branch mains can be arranged, in order to minimise the inconvenience of short circuits.

For a small house the most compact and by far the most economical in working is the petrol gas. The plant occupies small space, it is easily worked, and requires little or no attention, the light is brilliant, the gas is neither explosive nor poisonous, thereby differing greatly from that generated on the acetylene principle.

The cost for the installation of artificial lighting is approximately as under, allowing for 100 points in each case, but excluding cost of fittings:—

Electric light, 220*l.* to 300*l.*; acetylene, 120*l.*; petrol gas, 150*l.*

### Domestic Hot Water.

Every year finds our clients more exacting in their requirement for this very necessary comfort in the house. Hotter water, and more of it, is the demand, and, whereas some years ago people would wait for the water to be heated, they now demand that it shall be hot any time at night, no matter how late, and any time in the morning, no matter how early, and it is an architect's duty to satisfy all demands of his clients, or rather to provide such an apparatus that the servants, if they do their duty, can obtain satisfactory results. In a country house, where the cold supply is not automatic, but has to be pumped up from time to time, the upstairs hot-water cistern is liable to be dangerous and the downstairs cylinder just above the boiler should be provided, as then it cannot be emptied if the cold supply temporarily fails.

In few houses does the ordinary kitchen range supply sufficient power for modern requirements, and, though that boiler can be increased in power by various means, it is desirable to use it merely as an auxiliary, relying on a special furnace and boiler to do the real work. It is a great advantage, especially when the water contains lime, iron, or other minerals—and it usually does—to have the boilers and circulating pipes, together with the cylinder, of copper, as firring is avoided and iron and other stains to linen reduced to a minimum. The cylinder and circulating pipes should, where possible, be covered with boiler composition to retain the heat, and then if the system is carried out with due care efficiency in action resolves itself into a question of stoking. Before an architect passes any system he should have the water heated up from stone cold to 100° Fahr., and note the time this takes, which should, speaking roughly, occupy about one hour. Hot water for domestic purposes should be kept to that alone, and not be connected in any way to radiators, or it will be found to perform neither duty satisfactorily.

### Planning of the Sanitary Arrangements.

When first getting out the drawings every endeavour must be made to keep all these as far as possible to one wing of the mansion, with, if practicable, a lobby in between. This will scarcely be possible in a very large country mansion, where the following provision has to be made:—(1) For the best bedrooms, (2) for the nurseries, (3) for the visitors, (4) for gentlemen on the ground floor, (5) for the maidservants, and (6) for the indoor menservants. They should in any case be kept together as much as possible, and no doubt some such arrangement as under could be managed:—

*A.*

| | |
|---|---|
| Top floor ..... | Maidservants. |
| First „ ..... | Best bedrooms. |
| Ground „ ..... | Gentlemen. |

*B.*

| | |
|---|---|
| Top floor ..... | Nurseries. |
| First „ ..... | Visitors. |
| Ground „ ..... | Indoor menservants. |

If each of these are planned immediately over or nearly over each other it will be seen that the six systems can be included in two, which is advantageous, economical, and efficient. Less material and labour are required, and the run of all pipes reduced to a minimum, and possibly the unlovely ventilating soil pipes limited in number.

### Floor and Wall Surfaces.

Floors, walls, and ceilings of water-closets, lavatories, bathrooms, housemaids' closets, and sculleries should be solid in construction, and impervious as to surface, without any sharp anglers or dark corners. None of these apartments should be arranged in any other position than against at least one external wall, with direct and uninterrupted ventilation to the fresh air.

Floors and walls of dairies and larders should be of glazed bricks or tiles, and the shelves of marble, stone, or slate, fixed 1 in. clear from the walls.

### Fittings.

Casings of every sort should be avoided. Baths and lavatories should be of the independent pattern, with pipes, traps, and wastes easily accessible, and, as these are now being used in dressing-rooms, the old-fashioned overflow must be avoided. The wastes must be quick and siphonage guarded against. Rain-water heads outside bedroom windows must not receive the discharge, but a solid connexion must be made to a stack used for wastes only, disconnected at base and ventilated above the highest windows. Lead sinks should be avoided and glazed sanitary ware used instead. Water-closets should be simple in construction, have a large water surface, a good seal in the traps, and be fairly silent in working, while the outgo should be capable of efficient connexion to either lead or iron soil pipes.

Water-waste preventers should discharge 3 gallons in under ten seconds, and should refill in less than sixty. This is a matter which is almost invariably neglected by the maker of the fitting. If valve closets are used, then a separate cistern is required for their flushing. Flushing pipes should be 1¼ in. in diameter unless the head of water exceeds the normal 5 ft. 6 in.

Soil pipes should, for preference, be of hydraulic lead, of 8 lb. thickness, and should be carried up full bore for ventilation; the diameter should never exceed 4 in., but 3½ in. is usually better unless very many water-closets discharge into it. In every case the traps of all water-closets should be provided with an anti-siphonage pipe continued up as a ventilator and carried down to the nearest inspection chamber in order to relieve any pressure on adjacent gullies.

Storage cisterns must be in positions which are clean, light, and accessible, properly protected from contamination, frost, etc., and with all supply pipes fitted with stop-cocks. In order to secure proper pressure on each floor it is advisable to run the supplies in several bores, viz., the top floor could have a 1¼-in. pipe, the first floor 1 in., reduced to ¾ in. on the ground floor. Cold water cisterns feeding hot-water supplies must be fixed as high above the circulating point as possible.

### Drains.

Drains should be kept as far as possible outside the house; good stoneware pipes with cement joints will generally suffice, and great care should be taken to keep the interior of the joints free from superfluous cement, so that the flow may be unchecked. The pipes must be laid on concrete beds levelled to uniform falls 1 in 30 to 1 in 40. Where any part of a drain runs under a building, near a wall, or at a higher level than part of the house, it should be laid in iron with caulked lead joints. It should be accessible by means of inspection chambers at all bends, junctions, alterations of level or other suitable places. It must be ventilated throughout by means of inlet and exhaust pipes; the soil pipes should be used for the latter, and experience has proved that a few well-placed exhausts at the highest points tend much more to efficient ventilation than many pipes placed a frequent intervals.

### Separate Systems.

It is most desirable to keep the rain and surface water distinct from the soil drains, but if a combined system cannot be avoided, then the rain-water should all fall to one interceptor, and thence to the foul drain, instead of each rain-water pipe discharging over a gulley and thence into the sewage drain. No gulley should, where in connexion with a soil drain, be dependent on the weather for its water seal, and gullies and air bricks should not be adjacent. The foul-water drain should pass through a disconnecting siphon before joining the septic tank, sewer, or other receptacle or conduit. If the sanitary arrangements of the mansion have been successfully planned, then the soil and other waste pipes, being limited in number, can be picked up with few branches, while the length of the main drain will be reduced to a minimum.

### Treatment of Sewage.

No matter what system is adopted in the ultimate disposal, some collection is first necessary. The cesspool, with its overflow to the nearest ditch, ventilated by a solidly-rusted-up rain-water pipe carried to an adjacent tree, is growing deservedly obsolete. The first thing to do with sewage is to get it swiftly, silently, and smell-less away from the dwelling, and it will be realised that there must be some fall in the ground from the house in order to accomplish this by gravitation. Where the fall is not a self-cleansing one additional flushing at the head must be provided, and, where possible, the bath wastes should be utilised for this. The treatment of sewage is dependent on many conditions, but the governing factors are the extent of land available, the contour of the surface, and the nature of the subsoil. Assuming these to be not unfavourable, most of the difficulties disappear, especially if the effluent has a run of any length before it reaches a tributary of some water-course.

Sewage should, in my opinion, be first collected in a tank with the inlet at a level which will not disturb the scum, and an outlet at that which will not interfere with the sludge, so that a clear volume of liquid is left in between. This tank can be covered in, when, of course, ventilation is necessary. The outlet can, if there is sufficient fall, dribble continuously over a filter bed composed of gravel, clinker, coke breeze, or any other similar material which will vary in depth according to the fall available for one or two filter beds, and whether land treatment is possible before the effluent reaches the nearest water-course. The effluent, on leaving the filter, should be allowed to flow slowly over some land, and its course should be altered from time to time and the ground dug over. It is most important that the land should not be overdosed, but allowed time for rest and aeration. So much depends on the lie of the land and character of the soil that all these details should be considered and provided for when the selection of the site is made. If a house is built on a dead level with a heavy wet clay soil the satisfactory disposal of the sewage becomes, indeed, an anxious problem. A good system for a small house standing in limited grounds is a three-division underground chamber having some 500 cubic ft. capacity, the first compartment constructed on the septic-tank principle, with capacity for about 400 gallons, the next compartment with about double that capacity, from which there is a flow into a final chamber through a coke-breeze filter some 2 ft. thick, from which it can be regularly pumped out of the third chamber over the kitchen garden, where there should be no more offence than if rain-water were being dealt with.

### Water Supply.

Last, but not least, is this all-important question. If the house is to be healthy the site must be high and dry, which means that we have all the deeper to go for our water supply. Surface springs, stored rain-water, and shallow wells are all so liable to contamination that even a satisfactory analysis coupled with a certificate of comparative freedom from bacterias, would be evidence for to-day, but possibly not to be relied on to-morrow.

The shallow well at one house I was building gave a copious supply for building purposes at a depth of 16 ft., very useful for the slaking of lime, but it could not be used for domestic supplies. Filtering even through a Pasteur tube did not in any way diminish the unpleasant smell or taste, while boiling merely condensed the same. It was rather difficult to understand, because houses and cottages on either side had excellent supplies from shallow wells, a fact which I ascertained before starting operations. Knowing that the water company, who were just too far off to furnish a supply, got their water from tube wells in the deep chalk, I determined to try the same source, and eventually, after driving a steel tube some 70 ft. down, testing and experimenting every 10 ft., I secured a most satisfactory supply of pure, if a trifle hard, water, which rose up to within suction distance in the tube.

Since then I have been a great believer in tube wells, as they possess the advantage of being sunk at much less cost or danger than the ordinary deep well, while the risk of contamination is reduced to a minimum. We most of us know the difficulty and expense of a deep well where often the smallest piece of matter in the wrong place may throw the whole of the pumping arrangements out of gear. Mechanical engineers have been employed thinking out this difficulty of deep water supply for us, and, not only can they bore a well any depth, but, by lining the upper portion with a steel tube, they can protect from surface contamination as deep as desired, and then, having tapped the supply which Nature has not only collected, but has also partly purified by earth filtration, they bring it to the surface and deliver it at practically any height by means of the air lift or the pumpless system, viz., the atmospheric air compressed to so many pounds to the square inch acting on the surface of the water in the tube well or the cylinders therein, the air being taken from the compressor in the power-house through a pipe laid underground to where the tube well is situate, not only bringing the water to the surface, but forcing it up to the height required for delivery by gravitation."

## THE INSTITUTE OF SANITARY ENGINEERS:

### PRESIDENTIAL ADDRESS.

AT a meeting of the Institute of Sanitary Engineers at Caxton Hall, Westminster, S.W. on the 20th inst., Mr. H. Percy Boulnois, M.Inst.C.E., President, delivered his presidential address, the greater part of which was devoted to the question of what really constitutes the profession of a sanitary engineer. The following and concluding portion of the address will be of general interest:—

"My own view is that with regard to early training it is of the utmost importance that there should be a thorough scientific grounding, and that the intelligence, and general capacity of the student should be expanded. One of the most difficult things to learn is the knowledge of how to learn, and how to apply that knowledge when acquired. The importance of evoking interest in a scholar cannot be overestimated, as that should be the object of all teaching. The mere successful passing of an examination does not always mean that the young man is sure of success in the battle of life, something more is required than that.

The only practical training is to be found under the actual professional and commercial conditions which cannot be taught in educational establishments. The drawing office and the works are an absolute necessity. Designing, specifying, and estimating in the office, and setting out, measuring up, and general administration on the works are where the actual practical training is acquired. There is also the danger that too much scientific training may tend to cripple originality and, in the engineering profession, it is essential that a man should be original and intuitive. If we all followed precedent there would be no advance. It is not possible to standardise the training of students as, after all, the personal equation has to be dealt with, and sometimes a well-educated young man may prove a failure when the rough and tumble of earning his living has to be faced there are certain qualifications such as observation, tact, power of expression, behaviour as a witness, knowledge of human nature, and other qualifications which cannot be taught in the "schools."

But there can be no doubt that an early scientific training must be of immense value in the engineering profession if the student has taken advantage of it. And the youth of to-day has considerable advantage over his predecessors inasmuch as there are now methods of learning the engineering profession which did not exist a few years ago.

Having thus far attempted to sketch the growth of the sanitary engineer as a profession and his training, I arrive at another difficult problem as to what are the limits or definition of his work.

It has often been stated that a sanitary engineer is inclined to attribute too much importance to such works as water-supply, sewerage, sewage disposal, and house drainage, and that he considers these subjects are the beginning and end of all public sanitation

Such a statement is very far wide of the truth, important as such works are in the direction of public health, there are many other problems, and factors, which are included in the health of a community.

Take, for instance, "scavenging" or the removal of our dry waste products, the importance of which has lately been accentuated by the discovery that flies are a fruitful source of disease. There are still a number of improvements in this direction to be carried out, for, although considerable advances have been made in the temporary storage of house refuse, and its ultimate disposal by burning, the method of collection is practically the same as it was forty or even fifty years ago. And no one would have the temerity to say that the methods in vogue, viz., the tipping the contents of open receptacles into open carts is the highest form of sanitary procedure. The proper housing of what one may call the 'lower classes' is still an unsolved problem, though there have been many praiseworthy attempts at a solution. Many of these efforts have been thwarted by the dirty habits of those whom we desired to benefit, and there is still a large field open for work in this direction. The air we breathe is of vital importance, and although the ventilation of our dwellings and public buildings has been greatly improved, there is still plenty of scope for investigations and advances in this branch of sanitary engineering.

The same remarks apply with regard to smoke abatement, which still demands our attention. Time will not allow me to mention many other subjects to which the sanitary-engineer might usefully direct his attention, but I cannot refrain from making a few remarks on that somewhat debatable question as to who is the right man to deal with 'Town Planning.' We hear that the medical officer of health, the architect, the land surveyor, the landscape gardener, are the experts that should be employed. I venture to think that the sanitary engineer is of equal, if not of more, importance than any of these experts, and that, as a rule, the 'town surveyor' is the proper official to deal with this question in all cases where he is capable of doing so. The first principles of town planning are, to my mind, that the water supply and sewerage should be properly designed. This involves very careful levelling and contouring. The proper width and construction and alignment of the roads is next in importance and the provision of light railways or tramways must not be lost sight of. Then comes the question of open spaces, such as recreation-grounds and the like. Housing of the working-classes is surely also a question for the sanitary engineer, and also the number of houses per acre that should be allowed. The provision of schools and the space that should be allowed for these require consideration, and also the space required for cemeteries, conveniences, public baths, sanatoria or hospitals, abattoirs, and many other provisions are all matters that come within the scope of the sanitary engineer. It thus appears to be important that his expert knowledge of these requirements should be used in any town-planning scheme. . . ."

## PARLIAMENTARY NOTES.

### St. Paul's Cathedral.

Mr. McKenna has made an important statement in reply to Mr. Kellaway to the effect that he is consulting the National Physical Laboratory as to the possibility of their undertaking a series of tests with the object of ascertaining the amount of vibration caused by motor and other traffic at different periods of the day in the streets adjoining St. Paul's Cathedral, and the effect, if any, on the fabric.

### The New Delhi.

Mr. King has put two further questions to the Under Secretary of State for India respecting the new capital buildings at Delhi. The first was whether consideration had been given to the statement to which Mr. E. L. Lutyens, a member of the Delhi Town-Planning Committee, and other distinguished architects had given their names, that architectural design in this country was not on a sound theoretical basis; and whether, in view of the proposals for establishing a practical school of architecture in this country on lines adopted in France and operative for centuries in India, where master builders were practical craftsmen and co-operated with workers, who were responsible both for design and execution in their work, the Secretary of State would proceed to secure the services of the best practical master builders in India to assist in arriving at a decision concerning the architecture of the new Delhi.

Mr. Harold Baker replied that the Secretary of State agreed that regard should be had to considered Indian opinion before decisions were taken respecting the architectural style to be adopted for, or the method of carrying out, the buildings of the new capital of Delhi, but he was not prepared to follow the suggestion of the hon. member.

The second question was whether, before making a final decision regarding the architecture of the new Delhi, the Secretary of State would consider the past and present work of Indian master builders, as shown by the materials collected by the Archæological Survey of India; and whether, in this connexion, architectural experts with practical Indian experience would be consulted.

Mr. Baker said the hon. member might rest assured that the precautions he suggested would be taken.

### Garden City at Rosyth.

Replying to Mr. Watt, Mr. McKinnon Wood stated that the Local Government Board have no direct authority to initiate a garden city, but in the special circumstances of Rosyth they had done all in their power to secure that development would proceed on approved principles. They had authorised the preparation of a town-planning scheme embracing the Rosyth area by the local authority of the borough of Dunfermline, and they understood the scheme was now practically complete and would be submitted for approval at an early date.

### Rosyth Harbour Works.

Answering Mr. J. Ward, Dr. Macnamara stated that it was correct that the huts for the accommodation of the workmen at the Rosyth Harbour Works were those recently sold at Immingham, but the plans and arrangements would be submitted to the Admiralty engineer. He had received the assurance of the contractors that they would be very pleased to carry out the work in connexion with the huts and their sanitary and other arrangements in a manner which would be equal to the reasonable requirements of the Scottish Local Government Board.

Mr. J. Ward further asked the President of the Local Government Board if his attention had been called to the recruiting of cheap labour in the southern districts of Ireland for the Rosyth Works, and if he was aware that the navvies and labourers on those works were contemplating another struggle in the spring to secure from the Government contractors the rate of sixpence, now paid by other contractors in the district.

Mr. Buxton replied that no steps with regard to the recruiting of labour had taken place during recent months, and he had no information with regard to the other matter.

### Cedar Wood as Fuel.

Mr. Harcourt has informed Mr. Watt that he was unable to say whether cedar wood was now used as fuel by the Uganda Railway, but he would make inquiry on the subject. This statement was in reply to the suggestion that cedar wood from the Government forests was being so used, and to the inquiry as to whether any opinion had been formed by experts as to how long the cedar wood of the world was expected to last.

### Government House, Sierra Leone.

It was stated by the Colonial Secretary that, in pursuance of the policy of housing European officials, whenever possible at the Hill Station it was proposed to replace the existing Government House in Freetown and the bungalow at Hill Station by a Government House at Hill Station. The probable cost of building a house suitable for the climate of Sierra Leone and of laying-out the grounds approximates to 32,000*l.*, but final sanction of the scheme had been deferred until specifications and detailed estimates had been prepared and considered.

## THE NEW DELHI.

THE following petition, omitting the first and the last paragraphs, is being sent to the Marquis of Crewe, K.G., His Majesty's Principal Secretary of State for India, in reference to an aspect of the question of the architectural style for the buildings of the New Delhi:—

"Here, in England, where, broadly speaking, no traditional craftsmen have survived, and where, in place of unself-conscious artists practising with intelligence and pleasure their various crafts, there are only mechanics dully earning a living, there is unfortunately a show of reason in treating building as a dead art and in selecting from our museums examples to imitate.

But India is not England (or Europe), and where there are still master builders and craftsmen, and an unbroken building tradition of more than 2,000 years, with all that it implies, there can be no serious question of style; that is better left to the classifiers and historians. The force of genuine craftsmanship is so vital and tremendous that if its methods are not tampered with it will always assimilate fresh and foreign forms. English workmen of the XVIth century, by the strength of their inherited craftsmanship, made real the architecture of the Renaissance. The native architecture suffered, but the buildings were still living. Indian native architecture would suffer in the same way if it was required to take its inspiration from abroad, but if left to the craftsmen the product would still be living art.

They submit that the question to be discussed is, not in what style, but by what

method the new city should be built; whether that of the modern architect in an office with his assistants, detached from materials, craftsmen, and site, carrying his buildings to completion upon paper, with pencil, trained mind, and hands, and binding with details and specification those who are to build strictly within these limits—the method that has produced the public buildings of the XIXth and XXth centuries, and in India those of the Anglo-Indian cities; or the method that has given us Westminster Abbey, Saint Sofia, Saint Peter's, Rome, and in India the Taj, the palaces of Akbar and Shah Jahan, and the great public works of former times, that of the master builder with his craftsmen working in accustomed materials upon the site from simple instructions as to accommodation and arrangement such as would have been given to a master mason or a master carpenter by a mediæval king who required a palace or a castle, or by a bishop who desired to found a cathedral. This is the method that has produced all the great buildings of the world, and no modern buildings warrant the assumption that it can be safely departed from. Then king and bishop understood crafts in a way that is not general now, and at the present time there seems to be an urgent need for a sympathetic middle man with a knowledge of building to act as a protecting buffer to the craftsmen, and to interpret to them modern departmental needs.

Your petitioners feel that the possibility of work upon these lines is now so rare that its value can hardly be exaggerated. Even in these days, when the arts suffer so much in England from its want, the pricelessness of genuine unself-conscious craftsmanship is not fully realised. Nothing can revive it once the chain is definitely broken; it is gone for ever, more hopelessly gone than the general public can understand or imagine.

They submit that it is for the general good, artistically and morally, not only of the United Kingdom and India, but of the world at large, that living craftsmanship should be saved from extinction by a right method of employment: that politically such a method will tie the natives of India more closely to the Mother Country, and at the same time give an outlet for the energies of the college-trained Indians, to whom all the arts are at present closed; further, that the use of native master builders handling native material is financially economical."

Amongst those heading the petition are:—The Duchess Adeline of Bedford, Lady Plymouth, Lord Glenconner, Lady Glenconner, Mr. Austin Harrison, Mr. Ernest Gimson, Mr. J. King, M.P., Lady Paget, Mr. Sidney Barnsley, Mr. Walter Crane, Mr. E. B. Havell, Mr. A. Randall Wells.

## MURAL DECORATION AND ITS APPLICATION.

On Tuesday evening at the South London Art Gallery, Mr. W. B. Dalton, the Principal of the Camberwell School of Arts and Crafts, gave an illustrated lantern lecture on "Mural Decoration and Its Application." Mr. H. C. Gooch (Chairman of the Higher Education Sub-Committee of the London County Council) presided, and was supported by Messrs. E. J. Horniman and T. Gautrey, of the London County Council.

Mr. Dalton said that mural painting had been receiving renewed attention and public support after a long period of somnolence and inertia. He intended to speak of it in the more limited field of pictures upon walls, then of great schemes of decoration in which the *tout ensemble* of the interior of a whole building had been considered, like Deysbrooke Hall, by Alfred Stevens, or the Upper Church at Assisi. The fact that last year there should have been an exhibition at Crosby Hall pertaining to mural decoration was in itself significant, for such things only fructified in an atmosphere of warmth and congeniality. The seeds sown by this exhibition were bearing fruit, but in one important department, viz., mural pictures for schools, the seeds seemed to have fallen on barren ground. In London his inquiries only brought to view three or four efforts, one of them of quite heroic character in Plumstead by the pupils of the school under the direction of their teachers. Mural decoration had been used in the service of religion and religious instruction and as the handmaiden of national and civic life almost from the days of the institution of these forces, but it was only to-day that the larger significance of education had seized the public conscience, and they were full of expectant hope that the great and glorious traditions of mural painting, as shown in those great epic poems upon the walls of the Vatican and the Sistine Chapel and in many other examples, might be again used in such newer dress as would become the atmosphere of schools and school life, in forms such as would triumphantly touch the imagination of the citizens of the future. This was not an impossible dream or a futile hope. If it were asked how and in what manner a beginning should be made, he would recommend the study of mural history to discover how far past efforts could be utilised to advance a new theme. Inspiration might be found, for instance, in the white Albanian vases in the British Museum, which were the nearest relatives to the lost children of the golden age of art, the world of Greek mural painting which, as far as the finest period was concerned, had entirely disappeared, and was now only known from the description of writers. Another means by which a safe commencement could be made could readily be found in the great number of fragments of mural decoration of the XIIIth and XIVth centuries, and earlier, which existed in the churches of this country, some in almost perfect preservation. Mr. Dalton exhibited a number of slides of the decoration in Pickering Church, Yorkshire, and remarked that, although such paintings might appear crude, archaic renderings of ancient legend and Biblical history, yet they should have their veneration, for these were the school pictures upon which their ancestry was reared in the days when even reading and writing were not taught to the vast majority of the nation. Still a third means would be to turn again to the great decorative mural schools of the Renaissance, and there were many others that the temperament and individuality of the artist would discover, and, of course, upon which he must impress his own personality if the result was to be at all successful. In the third means they owed a large debt of gratitude to Mrs. Sargeant Florence for her advocacy and experiments in, and long practical study of, wall pictures. The lecturer showed a series of designs by Mrs. Florence, executed at Oakham School, Rutlandshire. Whilst he thought they were less than just to their own progress, yet, if they could see where the practice of much painting in schools appeared to have reached firm ground, their gaze must be directed to America, where he understood many experiments were being tried by people who had been associated with Howard Pyle and Maxwell Parrish. Proceeding to discuss the subject through the two grand divisions of religious and civic examples, Mr. Dalton first directed attention to a set of mural decorations being executed in Mrs. Creighton's Home for Laundresses in Fulham, which might be considered to be on the borderland of school mural pictures. It might be that the somewhat limited appreciation of mural painting in this country had in the past been due to an uneasy feeling that their damp climate was an unsuitable one, and that all mural work was liable to be affected by it or by the atmosphere of their large towns charged with injurious gases. They had no means of knowing to what extent changes had taken place in the frescoes of Italy, and it would not be unreasonable to suppose they had faded. Lord Leighton's well-known lunettes in the Victoria and Albert Museum had faded, but not seriously. Leighton's pictures fortunately escaped the almost established practice of distributing a series of wall spaces to be decorated amongst a number of artists, for at least they were never likely to get unity of design through such means. Bonnat's realisms in the Panthéon, Paris, were unhappy in company with Puvis de Chavannes' great mural poems; and, nearer home, the well-intentioned hotch-potch in the Royal Exchange ought in itself to be a sufficient handwriting upon the wall to break down a reprehensible practice. It was greatly to be feared that the decorations now being executed for the Chelsea Town Hall would be equally inharmonious. They were the fortunate possessors of one unique complete modern scheme of wall pictures of a civic character executed by one artist, viz., the twelve panels by Ford Madox Brown in the Manchester Town Hall. Both Leighton and Ford Madox Brown approached mural decoration through colour, and avoided any means that might convey a sense of optical illusion. Colour rendering took the place of tones—the third dimension had no place in wall pictures. One could not but unfeignedly regret the half-measures of to-day, whereby so much mural work was painted on canvas in studios by the formulas through which easel pictures were produced, and then embedded in white lead in the panels intended for them. Mr. Dalton proceeded to urge that mural painting could not be separated from its technique, nor from its architectonic environment. He enlarged on the necessity of the artist understanding the art of the architect, and of the architect knowing something of the art of the painter, and instanced the ceiling of the Sistine Chapel by Michelangelo as a profound illustration of the importance of real collaboration. Another instance was Raphael's treatment of the Vatican. All the scores of great Italian religious mural paintings were executed in what was known as buon fresco, which might be briefly described as painting on a new plaster ground, only sufficient wet plaster being laid as the artist could complete, while the ground remained absorbent. The work of Mrs. Sargeant Florence and the fresco by Watts in Lincoln's Inn was a return to this method. The uncertainty concerning the durability of this method in our climate led to the introduction of the spirit fresco, and the Manchester frescoes were done in this way. In conclusion Mr. Dalton advocated a form of mural painting which appeared in quite a remarkable way to overcome the difficulties which had ever been attendant on other methods, viz., the system adopted by Mrs. Traquair for her decorations in the Chapel of the Royal Hospital for Sick Children, Edinburgh, and for the decoration of the Catholic Apostolic Church in the same city. She mixed pure white zinc with a combination of turpentine and linseed oil, and this was put on the walls in successive coats. At first the mixture was almost entirely oil and turpentine, with only a small amount of white zinc. Each coat was allowed to dry thoroughly before the next was applied, and more and more white zinc was used in each succeeding mixture until the fifth and final coat, when the pigment was of about average. After the final zinc coat the walls were allowed to harden for five or six weeks. The painting was done upon this zinc-white ground with ordinary artist's oil colours diluted with a medium of beeswax dissolved in turpentine. When the picture was complete and quite dry the whole surface was covered with copal carriage varnish of the best quality. This varnished surface was finally washed with a mixture of wax and turpentine, and rubbed with a cloth until it took a dull egg-shell polish. Mrs. Traquair's work had existed for a quarter of a century without any sign of change, and he was convinced there was a great future in store for the method.

## BOOKS RECEIVED.

Church and Manor. By S. O. Addy. (London: George Allen. 12s. 6d. net.)

Laxton's Builder's Price-Book, 1913. (London: Kelly's Directories. 4s.)

Greek Refinements. By W. H. Goodyear. (London: Henry Frowde. 2*l.* 10s. net.)

Byzantine and Romanesque Architecture. By T. G. Jackson, R.A. (London: Cambridge University Press. 2*l.* 2s. net. Two vols.)

Lockwood's Price Book. (London: Crosby Lockwood & Co. 4s.)

The Law of National Insurance. By Orme Clarke. (London: Butterworth & Co.)

### HONOURS TO FRENCH ARCHITECTS.

M. Couturaud, Honorary Architect to the Department of Pas-de-Calais, M. Thoumy, M. Bigot, M. Loysel, M. Nicolas, and M. Charles Lemaire, Paris, have been made Chevaliers of the Légion d'Honneur.

## THE CARPENTERS' HALL LECTURES.

THE REV. C. B. BARTLETT presided on Wednesday over the third of the series of lectures on the arts connected with building arranged by the Carpenters' Company at their hall, London-wall. The appointed lecturer for the evening was Mr. Alfred Drury, A.R.A., who would have given a demonstration in modelling, but in his absence through illness Mr. Stirling Lee gave an address on "Sculpture."

Mr. Lee expressed his personal regret at the absence of Mr. Drury, than whom, he said, he knew none more clever in the handling of clay. Last season he lectured on sculpture as a craft, and that night he would deal with certain laws which governed relief and those which governed the round. But first he would like to refer to the extraordinary craze that was going on all over the world in art. It was the usual thing now when a man was selecting a work of art to say:—"That is amusing; let us have it." This craze had gone to an extraordinary extent in all the arts, and so much so in sculpture that he wished, if possible, to bring home to them a little of the seriousness of art. When they saw some of the things being exhibited in the galleries, and read the things being written about them, they hardly knew whether they were in their senses or not. When it came to seriousness in sculpture, the one thing to be brought out was form. Suggestion was a delightful thing, but in sculpture form must be brought out, and nothing else. It must not be a blur or a blotch, such as they saw in some of the pictures being exhibited to-day. He thought literature was largely responsible for this. The literary man saw something suggestive, and, being of a fruitful mind, he filled it up—he saw a blur and put into it the extraordinary expression which he himself saw. He wanted them to get nearer to the truth that sculpture was something wrought out and something definite. They knew how the brain worked, and could see quite clearly now how a man saw nature. They could see from a man's work when he had just taken the thought as it appeared to him as a physical thing and had done it as such, or whether it had gone into the intellectual part of his brain and had been symbolised into a beautiful ideal. He would give one illustration of a painter who had painted beautiful pictures. He was taken ill, and his brain went. The first sign of this was that when he got back to his studio he took his portraits which were done with beautiful colour and form, and turned every one of them into post-impressions. The more degenerate a man became, the more impressionist his work was. He put in a patch of colour which was sky and another patch which was ground, and in his own mind filled up the detail; form went, and they simply got a blur of colour. Some of the colours were beautiful, and they might admire them from that point of view, but he urged the necessity for seriousness in art. Mr. Lee then proceeded to exhibit a large number of photographs illustrating the art of sculpture from the earliest times down to the time of Michelangelo. He pointed out the development which had taken place from the archaic figures of the Greeks and the wood sculptures of the Egyptians, and remarked that there was a tendency at the present day to imitate archaic work by leaving out the holes and cutting the whole thing in the block. He deprecated this tendency and emphasised the importance of dignity in sculpture. He also showed how a greater knowledge of anatomy had given more life to sculptured figures, but, commenting on the Venus de Milo, he confessed that he thought the conception was finer in the earlier work. It was a wonderful work, but had not quite the impression of the colossalness of the earlier men. Mr. Lee also exhibited a series of photographs of reliefs, and suggested that printing had largely destroyed the art of sculpture. Before printing came and people, as a rule, could not read, history was sculptured on the public buildings, but few could go to the British Museum now and in the sculptures there read the stories the sculptors told. At the conclusion of his address Mr. Lee gave a demonstration in modelling.

## ARCHITECTURAL SOCIETIES.

### The Architectural Association of Ireland: Classic Architecture.

On the 14th inst. an ordinary meeting of the Architectural Association of Ireland was held at 15, South Frederick-lane, Dublin. The President, Mr. George L. O'Connor, F.R.I.A.I., occupied the Chair. Mr. J. Hubert Worthington, M.A., read a paper dealing with the classic architecture of Rome and Sienna, particularly with the work of the great architect, Baldassare Peruzzi. The lecture was illustrated with photographs of buildings and original sketches by Peruzzi, obtained by the lecturer during a long stay in Italy. He said that Peruzzi was beginning to come to the fame which was his due. He ought to be a great inspiration to the architects of to-day, because his work did not belong to Italy alone, but to the whole world. The modern architect was apt to quail almost before the immensity of the works of ancient Rome, feeling an impotence to equal or excel their treatment by reason of their vastness. Though they had not from the hands of Peruzzi structures of the size of Florence or St. Peter's, yet his Palazzo Farnasia at Rome showed how Greek and Roman influence could be so combined as to satisfy modern requirements, and how in small and what might be termed petty opportunities the real classic spirit might be resurrected and a new grace and vitality added.

Mr. C. H. Ashworth proposed a vote of thanks to the lecturer.

Mr. Page L. Dickenson, in seconding it, criticised the Neo-Grec tendency of the modern architect.

Mr. W. M. Paton supported the motion, which was passed with acclamation, and Mr. Worthington suitably acknowledged the compliment.

### Glasgow Technical College Architectural Craftsmen's Society.

At the seventh meeting of the session, Mr. A. H. Purdie presiding, a lecture was delivered by Mr. A. F. Wilson on "Hints on Heating and Ventilation." In the course of the lecture, which was illustrated by lantern-slides, Mr. Wilson described various systems of heating and ventilation, and referred to faults and objectionable effects in some cases. He gave a short description of ozone air apparatus for maintaining the freshness of the air in public buildings, and mentioned that the new Justiciary buildings were the first of Glasgow public buildings to be equipped with this means of ventilation.

## ENGINEERING SOCIETIES.

### The Institution of Civil Engineers.

At the ordinary meeting of the Institution, held on the 21st inst., a paper on "The London and South-Western and Metropolitan District Railways Widening between Acton-lane and Galena-road," by Mr. E. Alexander Ogilvie, was read, the following being an abstract:—"Since the electrification of the Metropolitan District Railway Company's system in 1905 the increase in the number of passengers carried has been remarkable. Unfortunately, however, there is a limit to the number of trains which can be dealt with on a given length of line, and before long it was found that that limit had been reached on the portion of the District Railway Company's system between Hammersmith Station and the Western suburbs of Acton, Ealing, Hounslow, etc.

Between Ravenscourt Park and Turnham Green stations the Metropolitan District Railway trains travelled over that portion of the London and South-Western Railway Company's Kensington and Richmond Branch, used by the London and South-Western Railway Company's trains, as well as the Great Western Railway Company's trains and Midland Railway Company's coal trains. This large traffic caused numerous signal delays, inseparable from the working of two double junctions, and under these conditions the maximum capacity of the line was about 400 trains per day.

A scheme was prepared in 1909, and sanctioned by Parliament in the following year, for the widening of the lines between Acton-lane and Galena-road, which provided for independent tracks for the two companies, and enabled the Metropolitan District lines to pass over the London and South-Western lines, thus doing away with the existing double junctions.

The works were carried out departmentally by the London and South-Western Railway Company. They were commenced in September, 1910, and the scheme was brought in to use in December, 1911. The works comprised the widening of a brick viaduct about 53 chains in length, the erection of nine steel girder bridges, the entire reconstruction of two stations and the construction of an additional station, as well as large alterations to the earthworks west of Turnham Green Station. The principal difficulty in carrying out the work was the maintenance of an uninterrupted train service of more than 400 trains a day, which necessitated many temporary diversions of the tracks. The Metropolitan District Railway Company have been able to increase their train service by more than 40 per cent."

## GENERAL NEWS.

### Appointments.

The Town Council of Ludlow have appointed Mr. W. G. Lane, Member of the Institution of Municipal and County Engineers, Member of the Institute of Sanitary Engineers, and Member of the Royal Sanitary Institute, at present Borough Surveyor, Water Engineer, and Sanitary Engineer of Dartmouth, to the joint offices of Borough Surveyor and Inspector of Nuisances for Ludlow Borough. There were 163 applications for the post, which number was reduced to six, who were interviewed. The post was rendered vacant through the resignation of Mr. John Alfred Spreckley.

Mr. John Coates, M.Inst.C.E., senior partner of the firm of John Coates & Co., Ltd., 25, Victoria-street, S.W., has been appointed to carry out the work of the inspection of material purchased for the Commonwealth of Australia railway construction and rolling stock in connection with the Australian Trans-Continental Railway.

Mr. H. Edmund Mathews, F.R.I.B.A., has been appointed surveyor to St. Bartholomew's Hospital, in succession to the late Mr. E. B. l'Anson, F.R.I.B.A., F.S.I. Mr. Mathews was born in 1868, the eldest son of Mr. J. Douglass Mathews, F.S.I., F.R.I.B.A., with whom he is in partnership in the City, where he represents the third generation of the firm. He was educated at the Merchant Taylors' School.

The General Purposes Committee of Swansea Town Council have decided to bring up a recommendation at the next council meeting that an architect be engaged to undertake the architectural work of the Council at a salary of 500*l.* a year. The applicant must be a member of the R.I.B.A., and the appointment is a full time one. In view of this decision, a recommendation by the Housing of the Working Classes and Town Planning Committee to the effect that Mr. Portsmouth should be appointed architect for the 300 houses proposed to be erected at Townhill, at an inclusive commission of 2 per cent., was not approved of at the last council meeting. As the building of these houses is of an urgent nature and in view of the undertaking given to the Local Government Board that they should be erected as soon as possible, the Committee whilst approving the principle of the appointment of an architect to carry out the whole of the Corporation architectural work, recommends the Council to allow them to proceed forthwith with the erection of 100 houses, and that Mr. Portsmouth be engaged with regard to such houses on the terms already agreed between the Corporation and himself, and further that if it is decided to appoint an architect for the entire architectural work of the Corporation, it be an instruction to such architect that immediately on taking up his duties he will proceed in connexion with the erection of the other 200 houses.

### Retirement of Mr. H. Weatherall.

Mr. Henry Weatherall, F.S.I., principal partner of the firm of Messrs. Weatherall & Green, auctioneers, surveyors, and estate agents, has retired from practice. He founded, with the late Mr. James Green, about fifty years ago, a business that will be carried on, under the present style, by his partners, Messrs. J. H. Townsend Green, J. D. Weatherall, C. W. Willoughby, and Sydney A. Smith.

### Church Building Society.

The Incorporated Church Building Society held its usual monthly meeting on the 16th inst. at the Society's House, 7, Dean's-yard, Westminster Abbey, S.W., the Hon. Sir E. P. Thesiger, K.C.B., in the Chair. Grants of money were made in aid of the following objects, viz., building new churches at Merton, St. John the Divine, Surrey, 175*l.*; Watford, St. James, Herts, 115*l.*; Hurst Green, St. John the Evangelist, Oxted, Surrey, 100*l.*; and Watford, St. Michael and All Angels, Herts, 100*l.*; rebuilding the north transept of St. Mary's Church, Chepstow, Mon., 50*l.*; and towards enlarging or otherwise improving the accommodation in the churches at Barnet Vale, St. Mark, Herts, 50*l.*; Blanchland, St. Mary the Virgin (Abbey Church), Northumberland, 10*l.*; Chesterfield, Christ Church, 60*l.*; North Tidworth, Holy Trinity, Wilts, 20*l.*; Walworth, St. Mark, Surrey, 30*l.*; and Bedminster, St. Aldhelm, Bristol, 100*l.* Grants were also made from the Special Mission Buildings Fund towards building mission churches at Huntington-road, St. Andrew, York, 20*l.*; and Wembley Park, St. Augustine, Middlesex, 30*l.* The following grants were also paid for works completed:—South Norwood, St. Alban, Surrey, 70*l.*; Weston-super-Mare, St. Paul, Somerset, 150*l.*; Orlingbury, St. Mary the Virgin, Wellingborough, 10*l.*; and Upton Park, St. Michael, Essex, 50*l.*; in addition to this the sum of 220*l.* was paid towards the repairs of sixteen churches from Trust Funds held by the Society.

### Newcastle-on-Tyne Town Hall.

The subject of the new Town Hall for Newcastle was discussed at the meeting of the Estate and Property Committee of the Newcastle Corporation on the 20th inst. A report by Professor Beresford Pite, of London, who had been selected by the Committee to advise them in the matter, was read, indicating how the site at present occupied by the Town Hall could be utilised to the best advantage. A resolution was moved that Professor Pite should present another scheme providing for a concert hall to accommodate about 3,000 persons, but this was not seconded; and the Committee eventually decided that the report should be circulated forthwith amongst the members of the Council.

### The Architectural Treatment of Reinforced Concrete.

A special lecture in connexion with the ferro-concrete classes conducted by Mr. R. Graham Keevill, A.M.Inst.M.E., M.C.I., will be given by Professor Lethaby, F.R.I.B.A., at the Northern Polytechnic Institute, Holloway-road, N., to-day (the 24th inst.), at 7.30 p.m., on "The Architectural Treatment of Reinforced Concrete."

### School of Art Wood-Carving.

An exhibition of works of past and present students and a loan collection of old and modern carvings will be held in the Maddox-street Galleries, 23A, Maddox-street, W., kindly lent for this purpose by the President and Council of the Royal Institute of British Architects, from February 6 to 8. The exhibition will open each day at 11 a.m. The King and Queen are lending the Coronation cupboard carved at the School, and the Victoria and Albert Museum are also contributing a loan collection. Prizes will be awarded on Friday evening, February 7, by Mr. Gooch, Chairman of the Education Committee of the London County Council.

### Property Sales.

The Governors of the Central London Ophthalmic Hospital are about to dispose of the premises in Gray's Inn-road and Calthorpe-street, in view of the migration, at no distant date, of the hospital to Judd-street, St. Pancras. The hospital was founded in (old) Gray's Inn-lane in 1844; the three adjoining houses in Calthorpe-street were afterwards acquired.—Messrs. Nicholas have sold for the vendor to the Hon. W. C. F. Hanbury Tracy, Woodcote House, Oxon, near Goring, an early XVIIIth-century house, of which the drawing-room was built after designs by Robert Adam for the especial reception of George III. on his journey to Nuneham Park: the house, formerly called Rawlins, or Rollins, was the home during several years of Bulwer Lytton, the author.—Messrs. Nicholas are entrusted with the projected sale of Burnham Abbey, of about 520 acres, near the famed Burnham Beeches, and including the ruins of St. Mary's Abbey, which was founded for Augustinian nuns by Richard, Earl of Cornwall, and King of the Romans, in 1265. The remains consist mostly of the domestic buildings which are incorporated in the present farmhouse.—The Estate Exchange official register shows that recorded transactions in the sale by auction in London and the provinces, and by private treaty, of real estate, in 1912, amounted to 9,089,543*l.*, an increase of 691,749*l* over the total for the preceding twelve months.

### Victoria and Albert Museum, S.W.

A bust of the late Thomas Armstrong, C.B., Director for Art, 1881-98, sculptured by Mr. David McGill, has been presented to the Museum by his friends, and is placed near the Art Gallery door.

### British Association.

The British Association will hold their meeting next September in Birmingham, which city they last visited twenty-seven years ago. The President, Sir William White, will deliver his inaugural address on September 10. For the benefit of the general public there will be two evening discussions and six popular lectures by eminent scientists during the week, and on September 13 Messrs. Cadbury will give a garden-party at Bournville.

### Proposed State Department Building, New York.

A proposal is on foot for providing a central building in New York to accommodate the officials of the State departments who are at present housed in about twenty offices in various parts of the city at a rental of 160,000 dollars a year, which is equivalent to 4 per cent. on a capital expenditure of 1,000,000 dollars, for which sum it is estimated that offices could be erected to provide better accommodation for the various departments to be housed. Such a building could be made to harmonise with the new Court House and Criminal Courts now under discussion, besides the new Federal Court House, which will probably also be built. It is proposed to call a meeting to settle details and to draft a Bill to be introduced at Albany to obtain powers to carry out this proposal.

### The National Collections.

The Trustees of the National Portrait Gallery have placed on exhibition, in Room I., a copy, by J. Randall in 1871, of the painting, in Westminster Abbey, of Richard II., which, by some, is ascribed to André Beauneveu. The work is lent by the Victoria and Albert Museum. The original painting, we may mention, being the oldest contemporary portrait of a British Sovereign, was restored in 1866 by G. Richmond, R.A., and Mr. H. Merritt. Sir George Hayter's large portrait group of the House of Lords, in August, 1820, which he painted for Lord Dover, has just been presented to the National Portrait Gallery by the National Art Collections Fund. The picture, which is nearly 12 ft. long, contains some 200 figures, and has for subject an incident in the discussion upon the Bill for dissolving the marriage of George IV. An interesting group of pictures by Rossetti, Watts, Millais, Burne-Jones, and Orchardson will be on view in the Tate Gallery, Millbank, until the end of next March. Those by Burne-Jones include his "Music," "Cupid and Psyche," and "The Depths of the Sea"; and those by Millais are "The Black Brunswicker" and "Sir Isumbras at the Ford."

The third volume of Mr. Freeman O'Donoghue's "Catalogue of Engraved British Portraits in the Prints and Drawings Department, British Museum," has just been issued by the Trustees. The volume (L—R) has occupied two years in the preparation, and it is expected that one more will complete the series.

### Lectures on Illuminating Engineering.

The first section of the course of special lectures on Illuminating Engineering, which is now in progress at the Polytechnic, Regent-street, W., has now been concluded, and on Friday, January 17, the first lecture of the second half of the course, dealing with Illumination and the Eye, was delivered by Dr. W. J. Ettles. The remaining five lectures, commencing on Friday, January 24, are to be given by Mr. J. S. Dow, and will deal with practical applications, including such questions as the Measurement of Light and Illumination, Colour, Shades and Reflectors and Indoor and Outdoor Illumination.

### Academy of St. Luke, Rome.

Count Plunkett, H.A., R.I.B.A., has been elected an honorary Academician of the great association of artists in Rome, the R. Accademia Romana di San Luca. Count Plunkett gave a lecture on Monday evening, before the National Literary Society in Dublin, on Captain Baillie, the Irish engraver

## CORRESPONDENCE.

### The Beaux-Arts Committee for Architectural Training in Great Britain.

SIR,—In your issue of January 3 it is stated in a letter from the Secretary of the Society of Architects that the scheme for the foundation of architectural ateliers in London was first suggested to the Society of Architects by "several prominent members of the R.I.B.A. Council." This may possibly lead your readers to think that the scheme has the support of the Council of the R.I.B.A., and was to some extent inspired by them.

As a matter of fact the Council of the R.I.B.A. knew nothing of the proposal until they received a communication on the subject from the Organising Committee, which was already at work on the details of the scheme. This communication has been referred to the Board of Architectural Education, who are now considering it.

IAN MACALISTER
(Secretary R.I.B.A.).

### The Architectural Profession and the Decorator.

SIR,—I have read with much pleasure your admirable article on this subject in the last week's issue of the *Builder*. You are doing a real service to architecture and to architects in calling attention in such vigorous fashion to a growing and very lively evil which is doing, in a calculated and deliberate way, no end of mischief to our art and seriously undermining the influence of architects with the public. It may interest you and your readers to know of a case which I have recently heard where a commission, being placed with a well-known firm of advertising "decorators," actually passed through four hands before reaching its ultimate destination, gathering profit to each on its way and consequent loss to the employer.

I also know of another case where the architect advised his client to employ a firm of good repute for special work. His advice was rejected, and a firm of "decorators" posing as specialists in this particular work received the commission. It was only by accident, when the architect visited the works of the firm of his choice, that he found that the identical work was actually being executed by them, it having in the meantime been passed on by the "decorators," who did nothing in the matter but receive "unearned increment" and offer a lot of commonplace platitudes about "art." As you rightly point out, architects in a great measure have the question in their own hands. They possess the whip, and it is to be hoped they will use it in an energetic fashion.

C. E. MALLOWS.

SIR,—The most excellent article on the above subject which appeared in the last issue of your paper ventilates a very real grievance of our profession. I imagine that there are few architects engaged on London or country house work of any size who have not been troubled or actually injured by the machinations of a certain class of decorating firms. These firms, while not hesitating to ask for work from the architect, have no scruples in going behind his back to the client, and, if possible, taking from him what is the most interesting part of his work. There is a case in point which has come to our notice in which an architect was commissioned to build and decorate a large house. When the shell of the building was completed the client went to a decorating firm to choose carpets for the house, and instructed them to visit the premises for the purpose of measuring the floors. Whilst doing this they took complete measurements of the walls of all the principal rooms, and prepared and submitted the usual beautiful and somewhat misleading drawings direct to the client, with the result that the next thing the architect heard of was that the

decoration had been given to Messrs. ——. There are, of course, many decorating firms who are above actions of this sort, and whose co-operation and suggestions are extremely valuable.

The two remedies mentioned in your article are excellent, and I heartily agree with the suggestion of forming a black list, which would, I am convinced, go far to remedy the present state of affairs. The second suggestion is equally sound. Unfortunately, there is a certain number of architects who by their slackness, and worse than slackness, encourage and even provide excuses for these firms.

A decorator with whom I was discussing the question agreed that work was often taken away from architects, and asked me what else I expected, as they were constantly being asked for drawings and specifications by architects, who merely obtained them to use for procuring prices from other firms.

TRIGLYPH.

### A "Thoroughly Up-to-Date Society."

SIR,—Having read the leading articles in your issues of November 29, 1912, and January 10, 1913, and the reply of Mr. P. B. Tubbs, and also having followed the correspondence generally with great interest, I can hardly think that you appreciate the point which Mr. Tubbs made, but to my mind it was very clear.

In his Presidential address the President of the Society of Architects said a number of Licentiates had joined the R.I.B.A. under the misapprehension that it would be quite easy—in fact, more or less a matter of form—for them to become Fellows of the R.I.B.A. Under the circumstances a great number of them who have been elected must, I feel, be very disappointed, and the real point seems to be, did the members of the Institute who went round the country to induce architects to become Licentiates hold out the inducement that it would be quite easy to become Fellows, or not? If Mr. Cross or Mr. Hubbard, or one of the others who made the tour, do not care to answer the question, perhaps some of the Licentiates who listened to what they had to say at the various provincial meetings will give us the benefit of their views on the matter through your columns.

THOS WALLIS.

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SIR,—My letter under the above title, published in your issue of January 3 in reply to Mr. Seth-Smith's letter of December 20, is charged with asperity in your leading article of January 10, and with inaccuracy in "Subscriber's" letter of the same date. It may therefore be permissible for me to suggest that there is some acerbity and inaccuracy in your leading article—so far, at least, as it refers to my letter of January 3.

You say that if "Mr. Todd has read the report of the proceedings of the meeting at Conduit-street, which was held on January 8 of last year, and at which the amalgamation proposals were considered and rejected, he would not probably have written that the 'proposals have put it on record that the Society was willing to give up its independence and individuality in the interests of the policy it has consistently upheld, the terms of absorption being such that the high representative and professional standing of the Society were fully acknowledge and also put on record'—because the terms of absorption were rejected by an overwhelming majority of members of the Institute."

May I suggest that you would not probably have written the foregoing if you had again read the report mentioned and the leader in your own pages in your issue published after the Society of Architects' dinner held on April 26 of last year, in which you said:—"It seems equally unfortunate that the Institute is so constituted that proposals put forward by its Council and acceptable to the majority of its members should be at the mercy of a few energetic malcontents who take the trouble to pack the meeting. While it remains necessary to take the decisions of the general body of so large and widespread a Society in a room in which it is physically impossible for a majority of its members to be present at the same time, it is always possible to assert that the true voice of the Institute has not been heard at a meeting, and most difficult to deny the assertion. The Institute appears to have outgrown the arrangements thought sufficient in the original Charter."

The fact of the matter is, that the meeting of January 8, 1911, only affects the matter in so far that the meeting emphasised the putting on record of what I still assert was put on record. The terms of absorption were recommended by the Council of the R.I.B.A., and passed at one meeting of the members. Your own opinion of what happened at the second meeting is given in the quotation from your own pages above. The necessary amendment to the R.I.B.A. Charter was presumably approved by the Privy Council or the solicitors to that body.

Could any more definite putting on record of any proposals and their value be imagined?

In any case, the terms of absorption and the value I assert they had would have been equally put on record and entirely without prejudice to the Society if the first R.I.B.A. meeting had rejected the proposals. It is obvious that the Society put a value on its standing which the Council of the R.I.B.A. approved. It is equally obvious that the rejection of this valuation by a body "so constituted that proposals put forward by its Council and acceptable to the majority of its members should be at the mercy of a few energetic malcontents" is in no way prejudicial to the Society as a society, however regrettable may be the results.

You say that the general tenor of my remarks is "to place the two Societies on an equal footing." I most certainly do so in the sense in which I wrote, *i.e.*, that the Society is under the same moral and professional obligations to its members as the Institute is to its Fellows, Associates, and Licentiates. The only difference is in power to exercise these obligations. The Society has no charter, but can it be said that, in proportion to membership, the Society, as a body, is less powerful than the Institute?

In your leader you say:—"Mr. Todd had, too, no doubt also forgotten the case of the Society of Architects *v.* Kendrick, heard in the Chancery Division on April 22, 1910, a case in which the Society of Architects sought to restrain a builder and architect, who was not a member of the Society, from using the 'mystic letters M.S.A.' (to quote Mr. Justice Joyce) after his name." It is perhaps not surprising that the writer of your leader did not notice a certain article, based on this very subject, written by me during last summer, and it may be news to him that members of the R.I.B.A. itself used the letters "M.I.B.A." and "M.R.I.B.A." long before any such right was conferred by charter. The great majority of well-known chartered societies, the members of which use titles, have no specific right to do so, and many of these used the same titles before charters were granted.

Many well-known abbreviated titles are used on exactly similar authority to that under which members of the Society of Architects use the above-mentioned "mystic letters"—authority which has usually been endorsed by the Privy Council as regards similar societies when charters have been granted. If the use of abbreviated titles by non-chartered societies is illegal, as has been suggested, it may therefore be suggested that the Privy Council itself is encouraging this illegality.

I referred to Mr. Seth-Smith's "extraordinary and futile views" in my former letter, and must now congratulate him on the apparent *naïveté* of his views as expressed in the closing seven lines of his letter in your issue of January 10, and which are probably meant to be a reply to my remarks on the last paragraph of his former letter.

H. GUICHARDE TODD.

[*** Mr. Guicharde Todd's remarks do not materially affect the argument of our Leader of the 10th inst. He may be content to make assertions, but in the face of the decision of the very large meeting at the Institute and of Mr. Justice Joyce's strictures in the Courts, he must pardon us if we are unable to follow him or to believe that the majority of our readers will agree with his view of the position of the members of the "thoroughly up-to-date Society."—ED.]

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### The Late Thomas H. Watson.

SIR,—In your obituary notice of Mr. Thomas H. Watson you make no reference to his career in the Royal Academy, which he entered as a student in 1859. In 1860 he carried off the silver medal for measured drawings of the Consistory Court of St. Paul's Cathedral. These drawings are now in the national collection in the Victoria and Albert Museum. In the same year the silver medals for perspective and for sciography were also awarded to him. In 1861 he won the gold medal for a design for an exchange in a large commercial city, and in the following year the Travelling Studentship. In 1862 he was one of the first students who passed the R.I.B.A. Voluntary Examination in the class of Proficiency, which he followed up in 1864, on his return from his travels, by passing the Voluntary Examination in the Class of Distinction, being one of three only who ever passed that examination.

R. PHENÉ SPIERS.

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### The London Building Act and Drainage Works.

SIR,—I very much sympathise with the letter signed "G. T." in your issue of January 17. As a person also interested in property, I should be glad to know who is the authority responsible for the safe and proper replacement of the support under buildings.

Except as regards the sewer itself, the Borough Council's officials have apparently no powers of supervision over the concrete, if any, which is put back in the excavation, and it is no concern of theirs whether the building is safe or not. The District Surveyor is, or ought to be, the person responsible for seeing that the concrete and firm support under the buildings is properly replaced. If he has no control, who has?

F. S.

## THE LONDON COUNTY COUNCIL.

THE first weekly meeting of the London County Council after the Christmas recess was held on Tuesday in the County Hall, Spring Gardens, S.W., Lord Cheylesmore, Chairman, presiding.

*Loans.*—The Finance Committee recommended that loans be made to local borough councils as follows: Hammersmith, 3,000*l.* for electricity undertaking; Kensington, 347*l.* for contribution towards street improvement; Lambeth, 10,761*l.* for paving works; and Woolwich, 2,295*l.* for contribution towards street improvements.

*The Mall Improvement.*—The Improvements Committee recommended that a plot of land, having a total area of 461¼ sq. ft. with a frontage of 69 ft. to the widened entrance to the Mall at Charing Cross, be sold to the Liverpool and London and Globe Insurance Company, Ltd., for 11,737*l.* The land forms part of the sites of 17, Spring-gardens, and 55, Charing-cross, and when the Mall improvement was carried out, an option to acquire the property was given to the Liverpool and London and Globe Insurance Companies, Ltd. The recommendation was agreed to.

*St. Paul's Cathedral.*—Mr. Philip E. Pilditch, Chairman of the Parliamentary Committee, stated in reply to Mr. R. I. Tasker that the opposition of the Dean and Chapter of St. Paul's Cathedral to the proposed tramway subway, and certain facts concerning the matter which had been brought to the knowledge of the committee since the Council's Tramway Bill was approved by the Council, had necessitated careful consideration of the subject and consultation of the committees concerned and the City Corporation. No pains had been spared to deal with the matter with dispatch, and he anticipated that the committee would be able to report fully upon the subject at an early date, possibly next Tuesday.

*Theatres, etc.*—The Theatres and Music Halls Committee have approved the following drawings: Empress Electric Theatre, Mare-street—Deviations from the arrangements shown on the approved drawings of the enlargement of the premise and details of the electrical and lighting installations. Ideal Cinema, Bowman's-place, Holloway — Ventilation arrangements. Royal Cambridge Music Hall—Reconstruction of cinematograph chamber.

## ILLUSTRATIONS.

**Business Premises, Haymarket.**

THIS building, erected from the designs of Mr. Walter Cave, F.R.I.B.A., is described in the article beginning on page 117. Our Plate illustrations represent a detail drawing, shown at the Royal Academy Exhibition last year, and photographic views of the structure.

**West China Union University, Chengtu.**

As announced in our issue of January 3, the Board of Governors of the West China Union University recently invited competitive drawings from four firms of architects with a view to selecting one of them as official architects of the University. Messrs. Fred Rowntree & Son, of London, were appointed, and illustrations of their designs are published herewith.

## MEETINGS.

FRIDAY, JANUARY 24.

*Westminster Technical Institute.*—Mr. F. C. T. Tudsbery on "The Principles of Industrial Contract Law"—II. 7.30 p.m.

*Royal Institution.*—Professor J. Oliver Arnold, D.Met.F.R.S., on "Recent Advances in Scientific Steel Metallurgy." 9 p.m.

*The Polytechnic, Regent-street, W.*—Mr. J. S. Dow, B.Sc., on "The Measurement of Light and Illumination." 7.30 p.m.

SATURDAY, JANUARY 25.

*The Architectural Association.*—Visit to Bedford College (New Building), Regent's Park. 2.30 p.m.

MONDAY, JANUARY 27.

*The Architectural Association.*—Mr. R. Caulfeild Orpen, B.A., on "The Architecture of Dublin." 8 p.m.

*University of London (Victoria and Albert Museum).*—Mr. Banister F. Fletcher on "Mediæval Architecture: Parapets, Carved Ornaments, Sculpture, Stained Glass, Church Fittings." 5 p.m.

*The Little Theatre.*—Mr. E. B. Havell on "Modern Native Indian Architecture." Lantern slides. The chair will be taken by Lord Plymouth. 3.30 p.m.

*The Surveyors' Institution.*—Mr. A. Laurence Cox on "The Mortgage of Real Estate." 8 p.m.

*Royal Society of Arts (Cantor Lecture).*—Professor Vivian B. Lewes on "Liquid Fuel"—II. 8 p.m.

TUESDAY, JANUARY 28.

*University of London (British Museum).*—Mr. Kaines Smith on "Greek Art and National Life: The Writer as Artist." 4.30 p.m.

*The Institution of Civil Engineers.*—Mr. Frank Grove, M.Inst.C.E., and Mr. B. Tanfield Beridge Boothby, Assoc.M.Inst.C.E., on "The Canton-Kowloon Railway: Chinese Section," and Mr. G. William Eves, B.A.I., M.Inst.C.E., on "The Canton-Kowloon Railway: British Section." 8 p.m.

WEDNESDAY, JANUARY 29.

*Carpenters' Hall, London-wall (Lectures on the Arts Connected with Building).*—Mr. J. M. W. Halley on "The Craftsmen of St. Paul's." 7.45 p.m.

*Edinburgh Architectural Association (Associates' Meeting).*—Mr. Forrest H. Lightbody, F.R.S.E., on "Valuations." 8 p.m.

*Royal Society of Arts.*—Mr. Aneurin Williams, M.A., J.P., Hon. Secretary of the Labour Co-partnership Association, on "Co-partnership." 8 p.m.

*The Institution of Civil Engineers.*—Students' visit, to the Edgware-road—Paddington extension of the London Electric Railway.

THURSDAY, JANUARY 30.

*Architectural Association Camera, Sketch, and Debate Club.*—Annual dinner at the Café Monico. 7 p.m.

*Concrete Institute.*—Dr. J. S. Owens, A.M.Inst.C.E., on "The Settlement of Solids in Water and its Bearing on Concrete Work." 7.30 p.m.

*Society of Antiquaries.*—8.30 p.m.

*University of London (British Museum).*—Mr. Banister F. Fletcher on "Ancient Architecture: Theatres and Amphitheatres, Circi." 4.30 p.m.

*University of London (Victoria and Albert Museum).*—Mr. Kaines Smith on "Five Centuries of Decorative Art (1050-1550): Armour and Weapons." 3.30 p.m.

*London Master Builders' Association.*—Annual dinner, Whitehall Rooms, Hôtel Métropole, Charing Cross. 6.30 p.m.

*The Polytechnic, Regent-street, W.*—Mr. Mervyn Macartney on "St. Paul's Cathedral." 8 p.m.

FRIDAY, JANUARY 31.

*Glasgow Technical College Architectural Craftsmen's Society.*—Mr. J. S. Boyd on "Hampton Court Palace." 7.45 p.m.

*Leicester and Leicestershire Society of Architects.*—Mr. A. S. Jennings on "Modern Progress in Paints and Painting." 8 p.m.

*Westminster Technical Institute (L.C.C.).*—Mr. F. C. T. Tudsbery, B.A., LL.B., on "The Principles of Industrial Contract Law"—III. 7.30 p.m.

*Cold Storage and Ice Association (Royal Society of Arts Rooms).*—Paper by Mr. R. Balfour, entitled "An Investigation of the Inflammability of Some Insulating Materials." 8 p.m.

## COMPETITION NEWS.

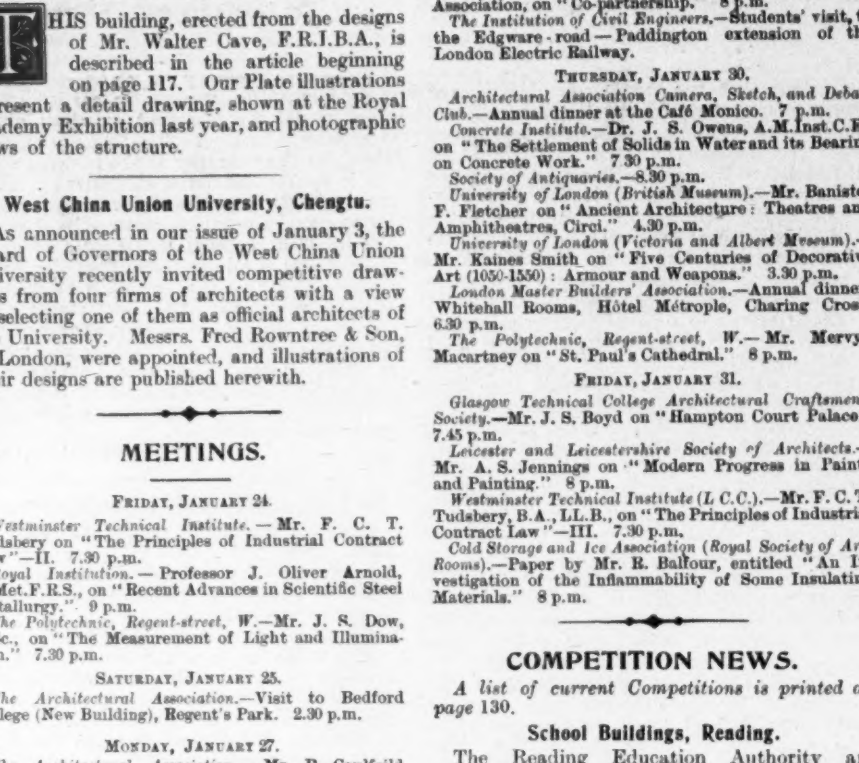
*A list of current Competitions is printed on page 130.*

**School Buildings, Reading.**

The Reading Education Authority are intending to erect buildings for the accommodation of the Kendrick Boys' and Girls' Secondary Schools, and have decided to appoint an architect on the result of a competition limited to architects resident or carrying on business within the borough. The Committee have appointed Mr. Ernest Newton, A.R.A., F.R.I.B.A., of 4, Raymond-buildings, Gray's Inn, London, W.C., to act as assessor in this competition. Two premiums respectively of seventy guineas and thirty guineas will be paid to the competing architects who are placed first and second by the assessor, any such premium in the event of employment to merge in the commission paid to the architect employed. Designs, etc., must be delivered at the Education Offices, Blagrave-street, Reading, on or before April 18.

**A Prize for an Essay.**

Essays are invited by the Council of the Society of Engineers on "A Scheme for the Registration of Engineers, including Particulars Concerning the Registration of Engineers in British Colonies and Foreign Countries." The prize will take the form of books and instruments to the value of 10*l.* 10s. A copy of the regulations governing the competition can be obtained from the Secretary, 17, Victoria-street, Westminster.




**Plan of Accepted Design.**

By Messrs. F. Rowntree, F.R.I.B.A., & Son.

## FIFTY YEARS AGO.

**From the *Builder* of January 24, 1863.**

**The Latest Edition of Chambers's Treatise.**

"IT is not altogether without reason that the hitherto-received as orthodox doctrine of the Five Orders has been of late brought into disrepute. Not only does it authorise, but even insists upon, not only the most servile, but the most mechanical copyism. Dispensing with, even prohibiting, any exercise of the artist mind, such system reduces what ought to be design nearly to the level of manufacture. What are termed Orders ought rather to be regarded as Classes of columns and their entablatures, which, though conforming respectively to certain normal proportions and preserving certain characteristic details, admit of great, almost illimitable diversity.

Far better would it have been for Modern Classic had the writings of Vitruvius never been brought to light, or else estimated at their real worth, instead of being regarded with superstitious reverence."

*** If any justification attaches to this criticism it must be looked for not in the direction of the Five Orders, but in their acceptation as "orthodox doctrine." That "the letter killeth" has, in this case, been most amply exemplified, while the only charge that can be brought against the Orders themselves is that they are either too many or too few. Regarded in the strict sense of Orders, both Tuscan and Composite are superfluous, while the five, considered as instances and varieties only of definite types, might have been in Vitruvius's time, as one cannot doubt, very materially multiplied.

Proportions and detail among the Greek Orders may be said to have been never twice alike. Height and diameter of column and depth of entablature were various, while an equal variety appears in the detail. To quote one instance only, the curve of corona soffit in the Parthenon, Propylæa and Erechtheium belong respectively to the parabola, hyperbola, and ellipse. It is true that the Romans, in most cases, solved such niceties by the substitution of the quadrant, but there is no evidence that they adhered to any fixed canon of proportion. The Theatre of Marcellus, the Temple of Fortuna, and so on, are interesting instances of the application of an Order—that is all. If Vitruvius had only been an artist instead of a pedagogue; if Pausanias had been but an amateur of the fine arts instead of a globe-trotter, what a different spectacle of Greek and Roman architecture might have been presented to us!

As it is, however, one must be thankful to the former, at any rate, that he has prevented many a subsequent pedagogue from perpetrating proportions that were absolutely anarchical. Authority, however ill-exercised, possesses this qualification.

On the other hand, what would have been the position of architecture to-day if its spirit of enterprise had not been lulled by false doctrines, is a legitimate subject for speculation.—ED.

**"WILLING'S PRESS GUIDE."**

Messrs. James Willing Ltd., of 125, Strand, W.C., send us the annual issue of "Willing's Press Guide." This book is a concise and comprehensive index to the Press of the United Kingdom, and contains not only a complete list of all the British journals, but also of the principal Colonial and foreign journals, and a variety of general information. This is the fortieth issue of a very useful book, the published price of which is 1s.

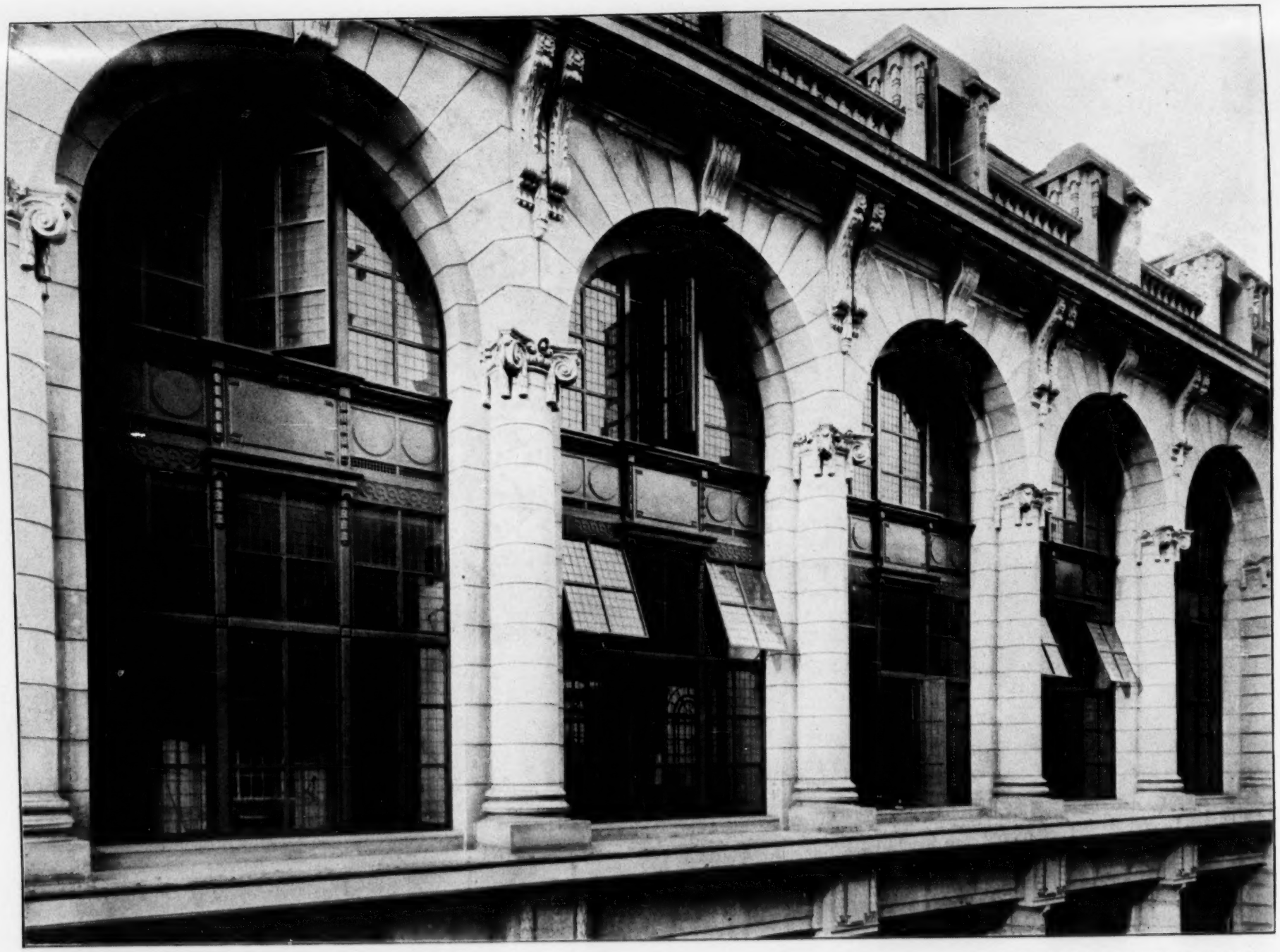
Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

BUSINESS PREMISES, HAYMARKET, S.W.: GENERAL VIEW.—Mr. Walter Cave, F.R.I.B.A., Architect

Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

BUSINESS PREMISES, HAYMARKET, S.W.: GENERAL VIEW.—Mr. Walter Cave, F.R.I.B.A., Architect.





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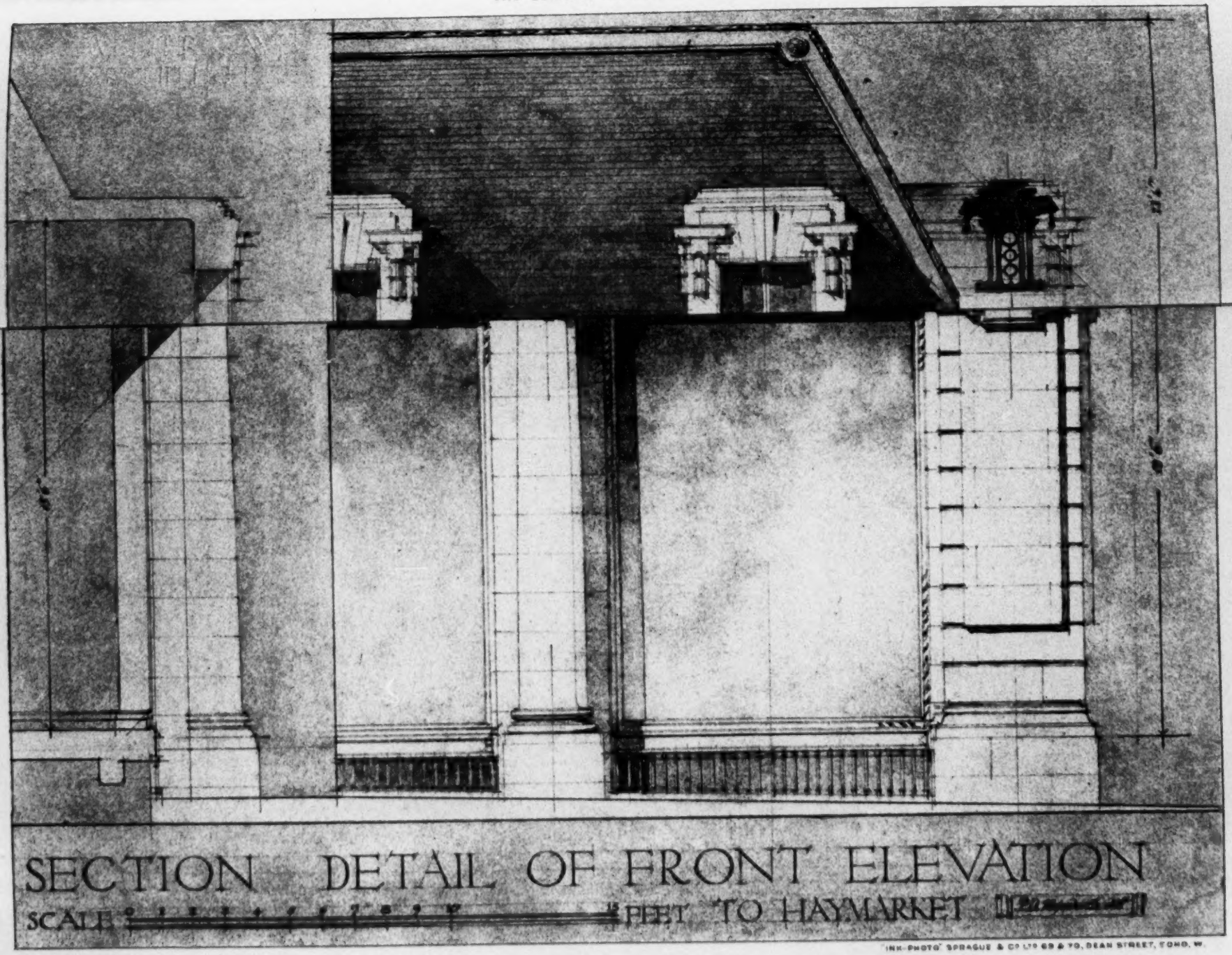
BUSINESS PREMISES, HAYMARKET, S.W.: DETAIL OF MAIN FRONT.—Mr. Walter Cave, F.R.I.B.A., Architect.

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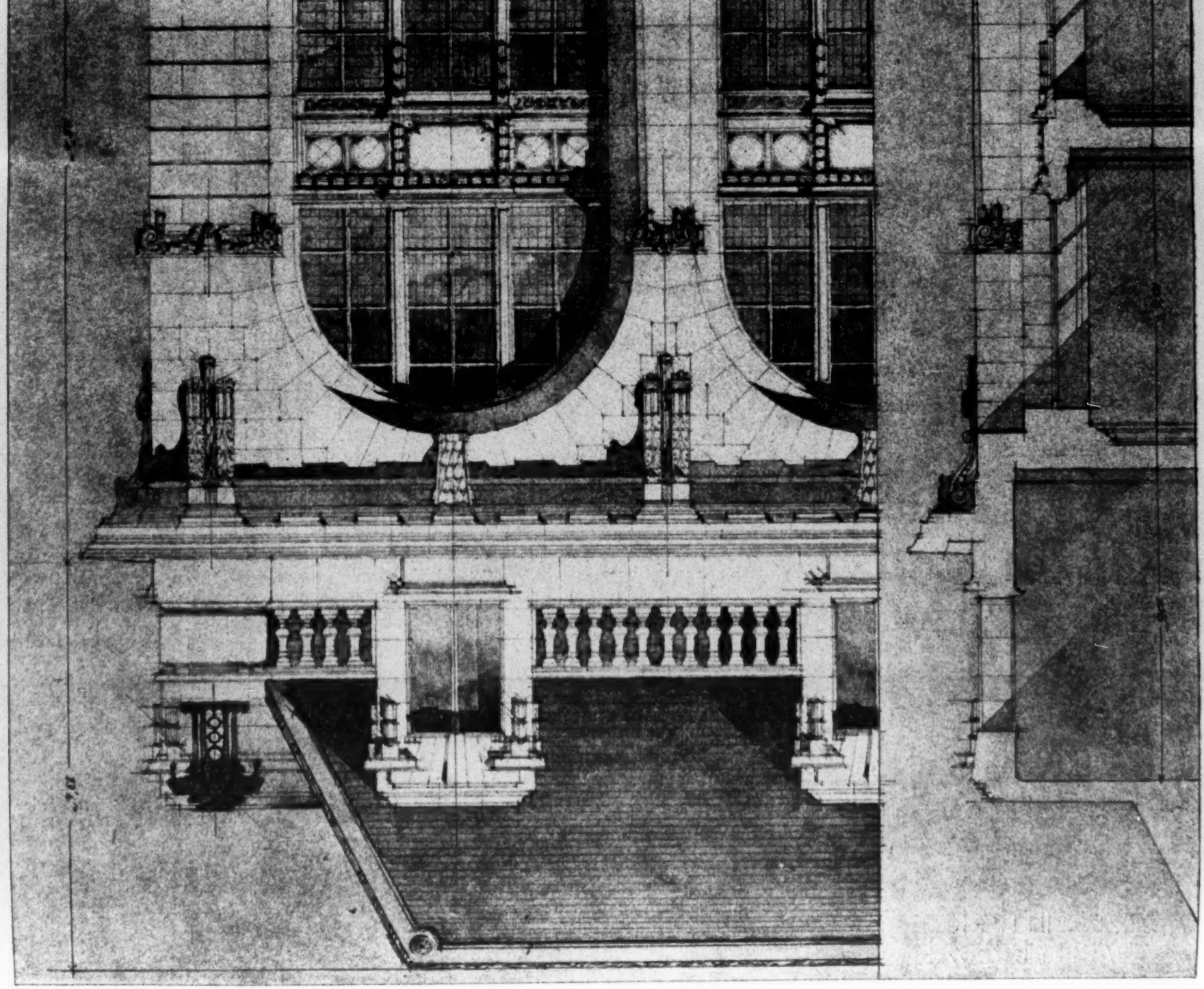
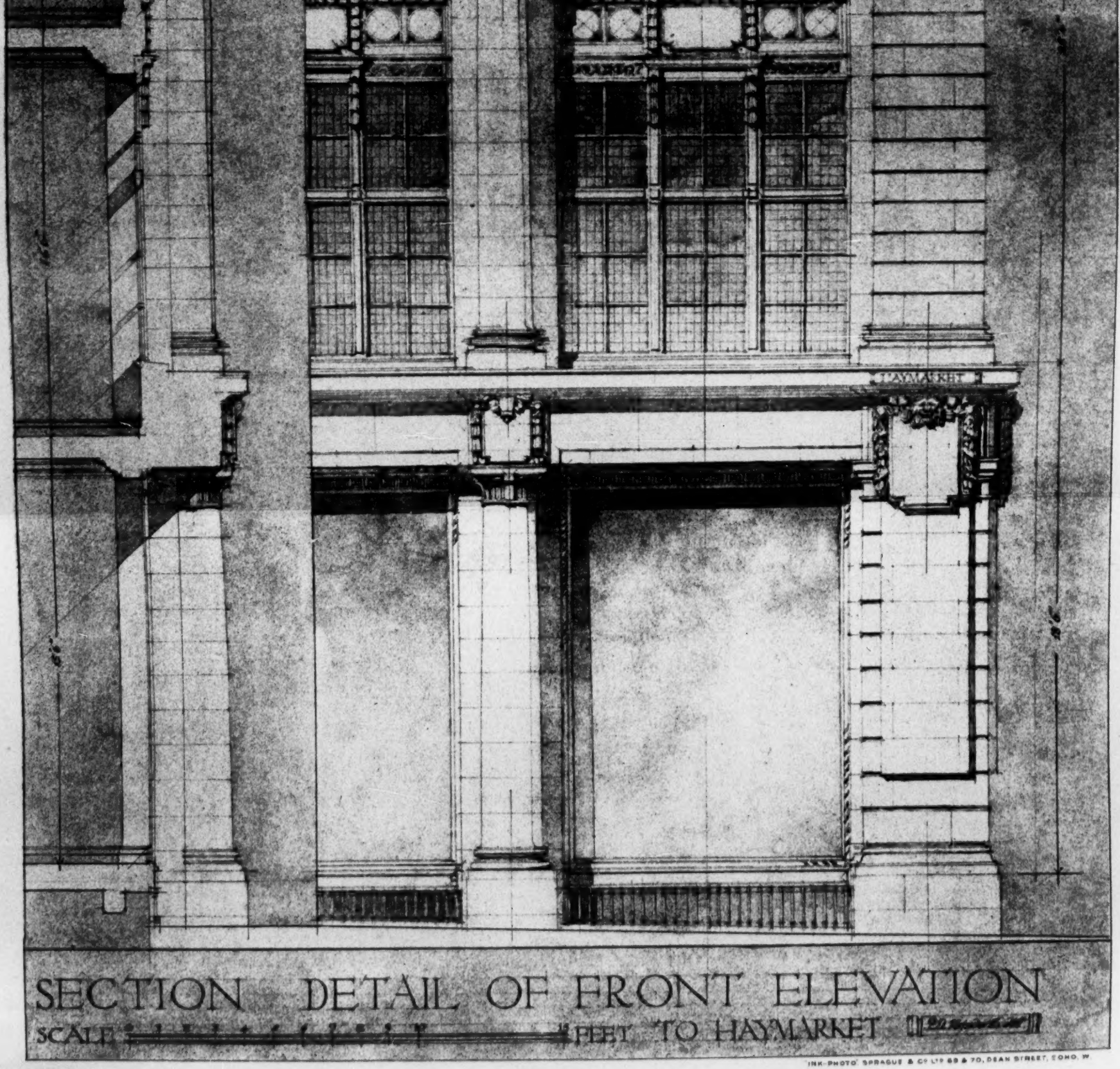
BUSINESS PREMISES, HAYMARKET, S.W.—Mr. Walter Cave, F.R.I.B.A., Architect.






SECTION DETAIL OF FRONT ELEVATION

SCALE 1 2 3 4 5 6 7 8 9 10 FEET TO HAYMARKET

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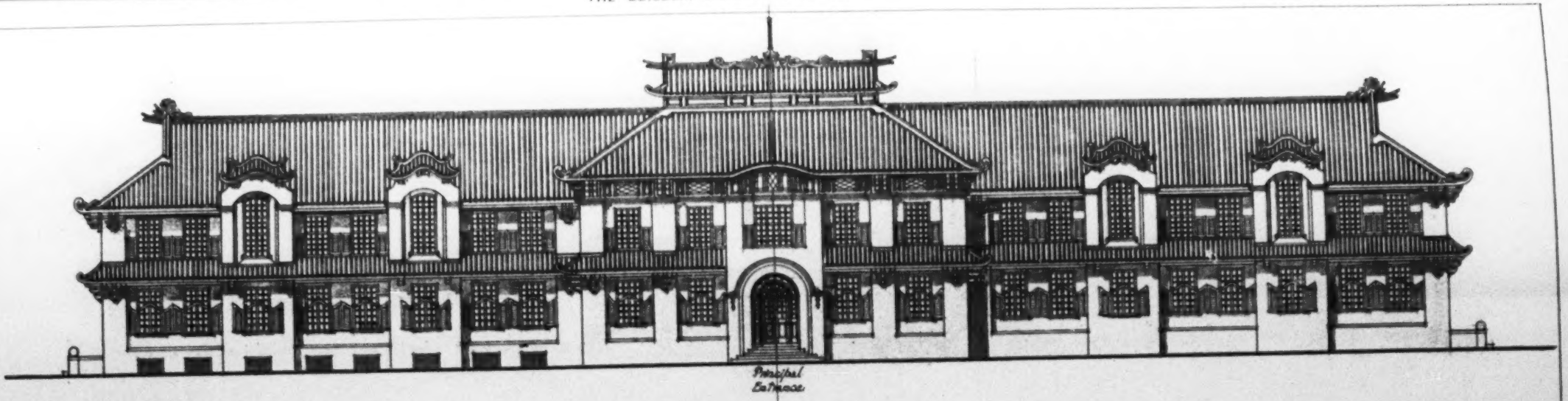
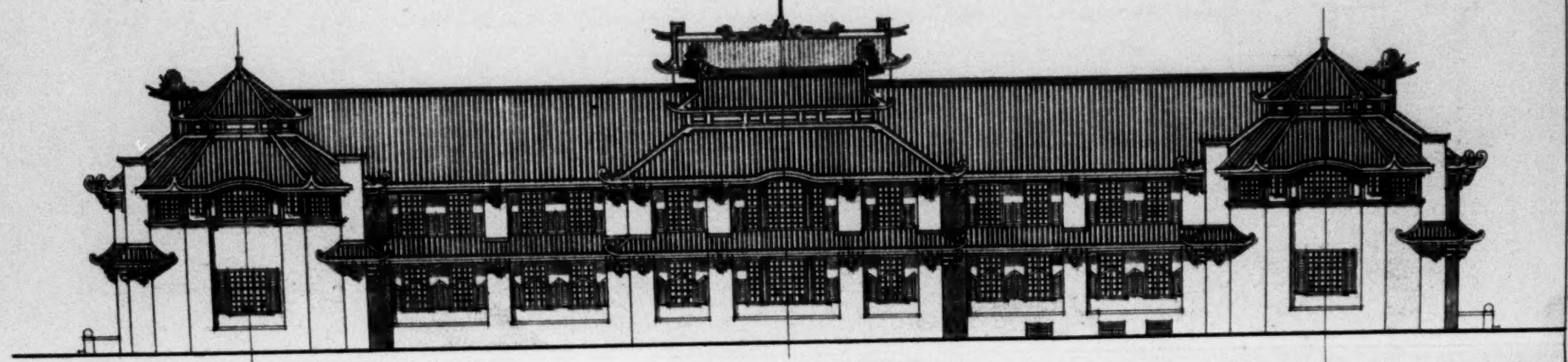
BUSINESS PREMISES, HAYMARKET, S.W.—Mr. Walter Cave, F.R.I.B.A., Architect.



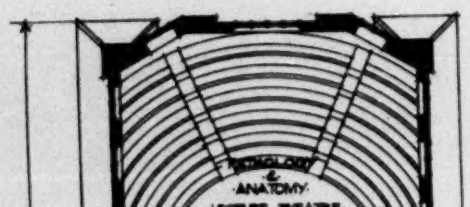

NORTH ELEVATION

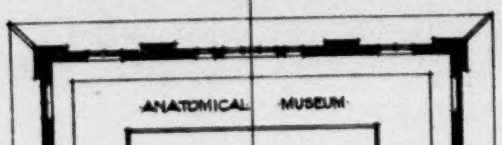
SCALE OF FEET

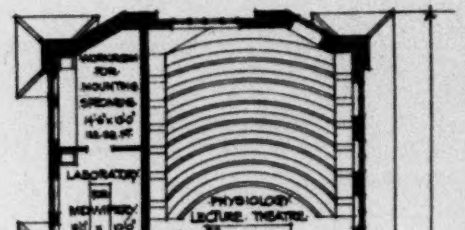


SOUTH ELEVATION

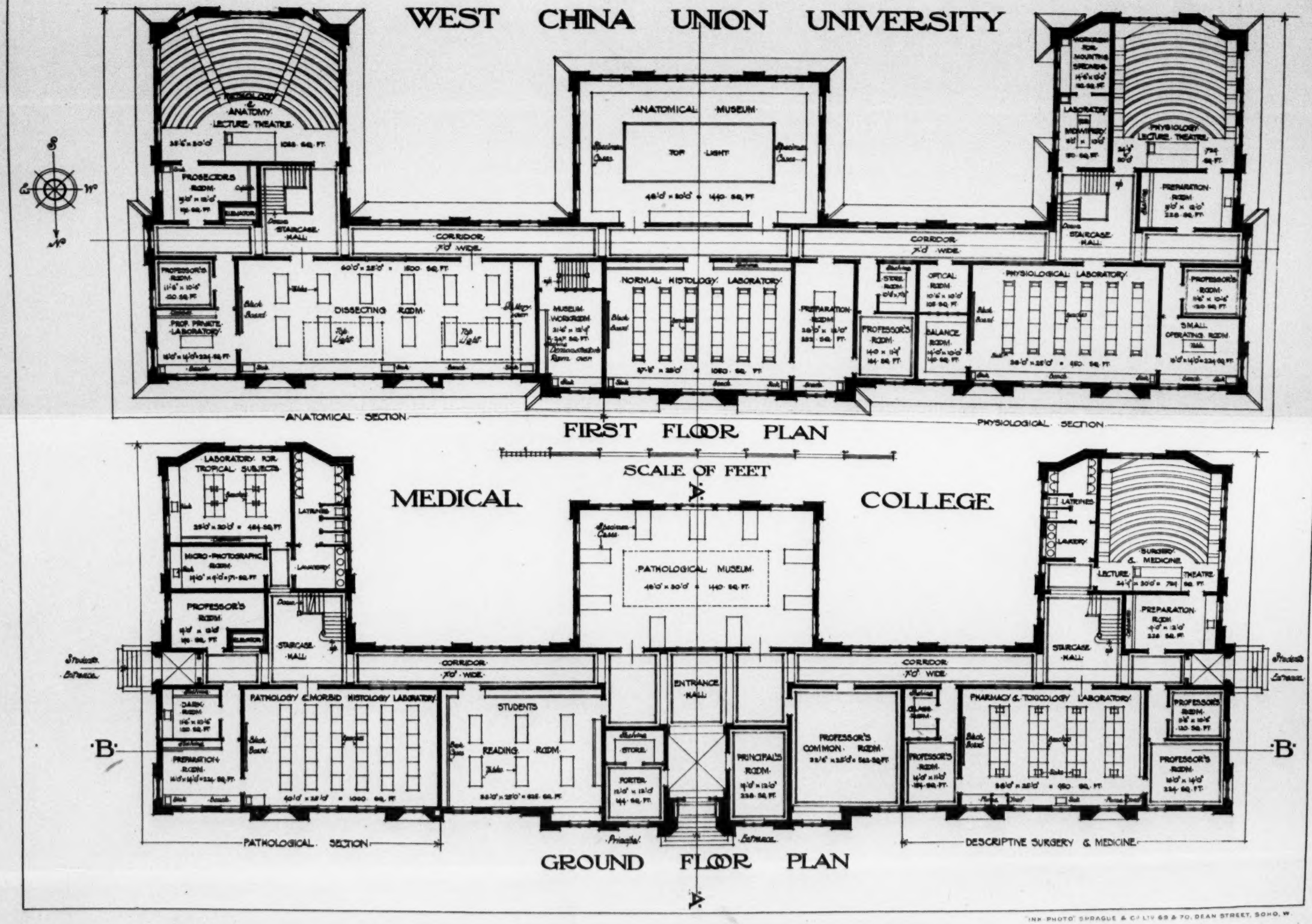
# WEST CHINA UNION UNIVERSITY



# WEST CHINA UNION UNIVERSITY




## FIRST FLOOR PLAN

SCALE OF FEET

# MEDICAL COLLEGE




## GROUND FLOOR PLAN

"INK-PHOTO" SPRAGUE & Co. LTD. 69 & 70, DEAN STREET, SOHO, W.

WEST CHINA UNION UNIVERSITY, CHENGTU.—ACCEPTED DESIGN BY MESSRS. F. ROWNTREE, F.R.I.B.A. & SON

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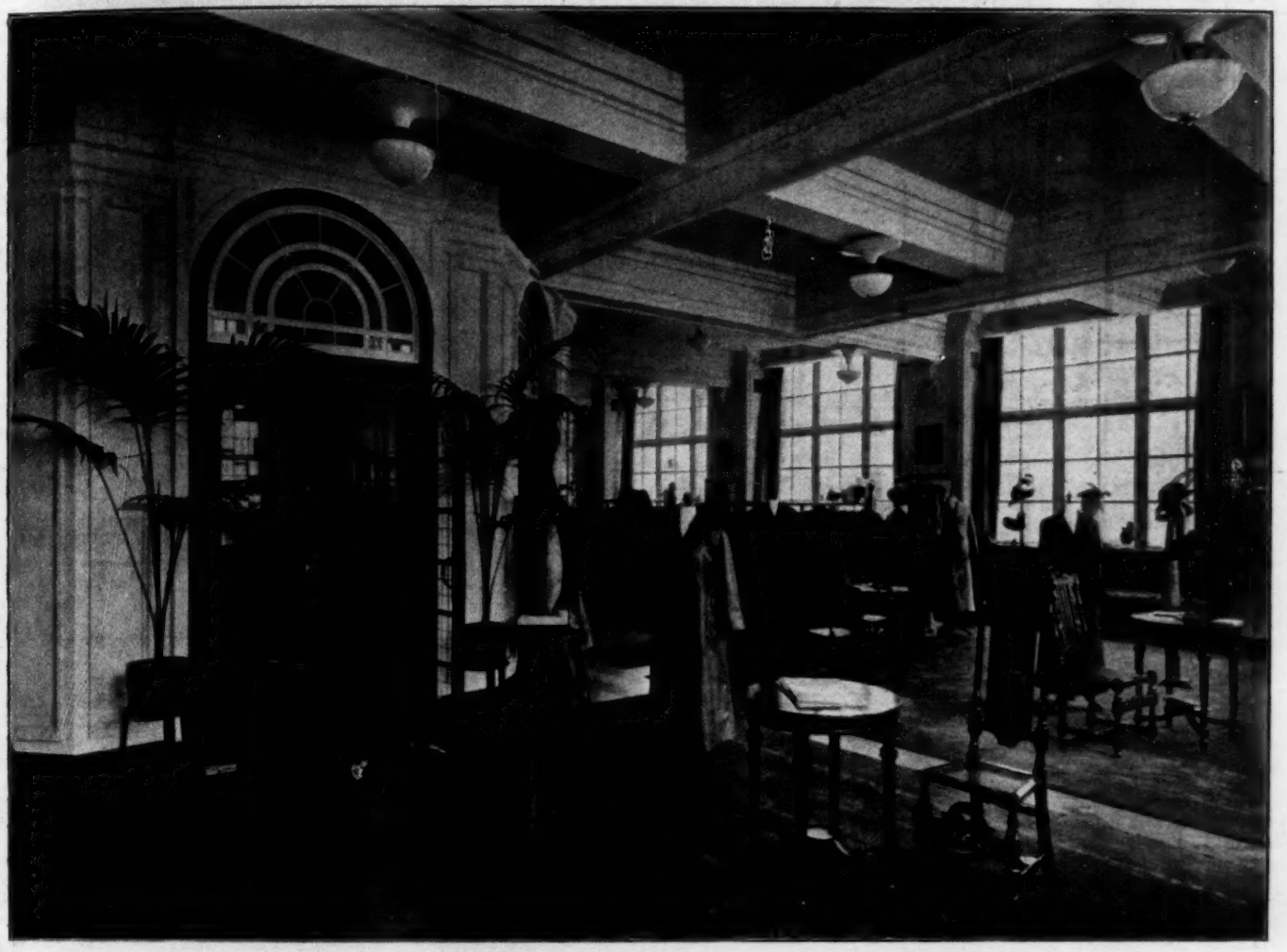
# CONSTRUCTION & ENGINEERING REVIEW



**Business Premises, Haymarket.**
Mr. Walter Cave, F.R.I.B.A., Architect.

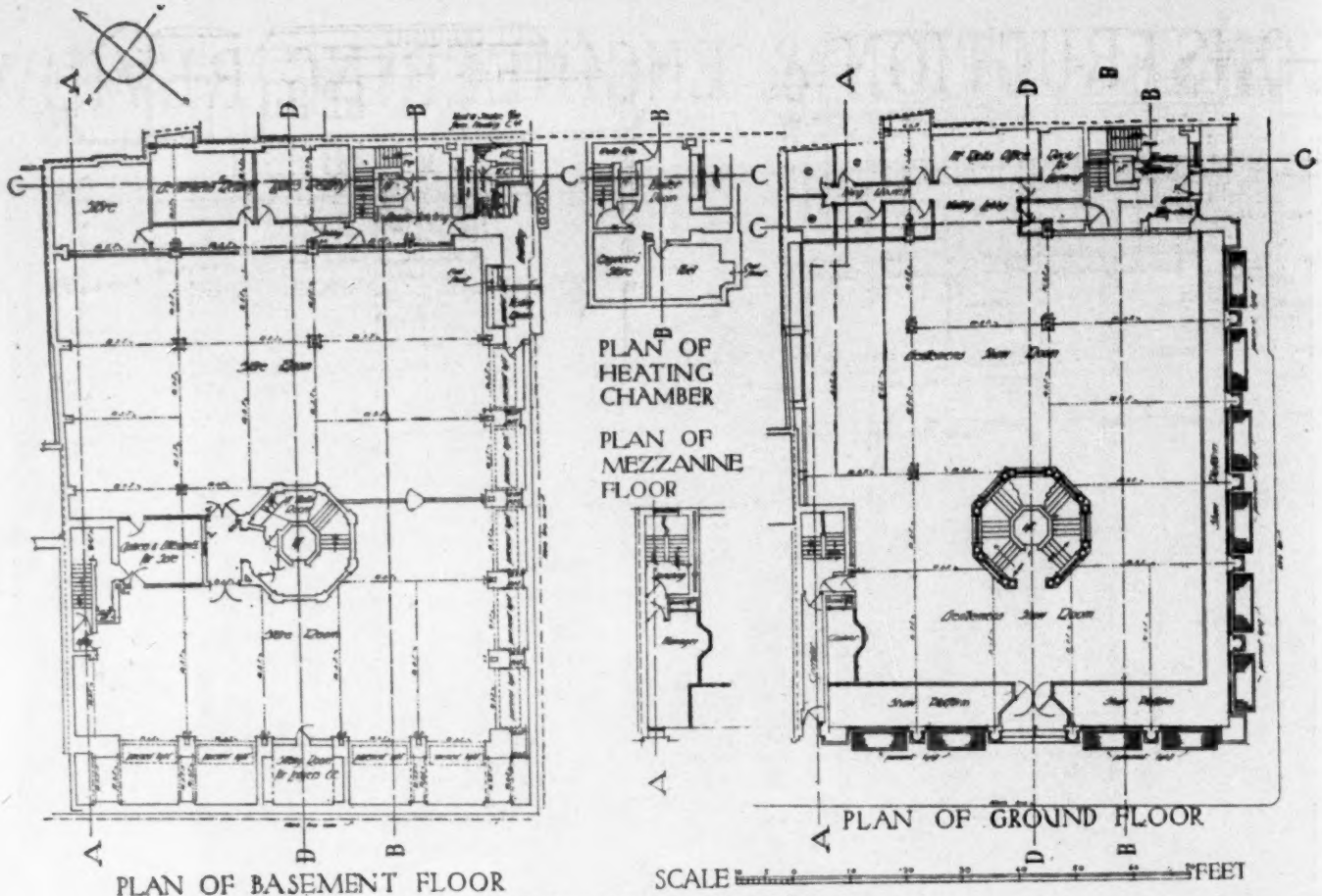
## BUSINESS PREMISES, HAYMARKET, S.W.

THE streets of London are constantly offering fresh sights for those who go about with the eyes to see them. It only too often happens in these utilitarian days that old and precious landmarks are swept away to make room for something which strikes a discordant note amidst its venerable surroundings and jars upon the memory which recalls the past. But it is not always so, and occasionally a commonplace building is swept away to be superseded by one of distinction. In spite of the danger arising from the absence of official control which gives to our streets a ragged skyline and a want of continuity in horizontal line, it must be allowed that the individual handling of separate frontages by different designers can and often does make a London street intensely interesting. It all depends upon the designer and the task that has been set him whether or not the loss of continuity in a street, and the quiet dignity which generally goes with it, are compensated for by our system of looking after the unit and leaving the mass to look after itself. Of all the problems that the present-day architect is called upon to solve there is none more exacting than that of the building to be devoted to the uses of shops and show-rooms in an important thoroughfare. The demands of the trader seem to conflict in essentials with the æsthetic principles of the designer. To give the utmost amount of glass area without obstruction in the whole width of the ground story, as well as the greatest possible window space on every floor above, is the ideal desired on the one hand, and to provide this without violating laws which demand that a building shall not only be stable but that it shall not give rise to so much as a thought of anything to the contrary is the essential on the other hand. The two are apt to conflict, and each time that they are unreconciled one more *tour de force* is added to the already lengthy list of eyesores which more or less disfigure the streets of every town and city where building activity has shown itself in modern days. But fortunately what can well be looked upon as relentless conditions are sometimes modified, either as a result of the persuasive persistence of the architect or of the good sense and reasonableness of his client, and then a perfectly consistent work of art may be produced. That such compromise is effected from time to time may be revealed by a tour of some of the principal London streets, and our remarkable proclivities for rebuilding will give many more opportunities in the near future.

One of the latest additions to London commercial architecture at its best is the new building recently completed on the east side of the Haymarket at the corner of Orange-street. This has been erected for Messrs. Burberry by their architect, Mr. Walter Cave, and, in addition to the plans, small-scale elevations, and interior views reproduced herewith, photographs and a detail of the principal elevation will be found on the Plates in this issue.

The building consists of basement, ground and first floors, all of which are showrooms, second floor accommodating the clerical staff, packers, etc., and a third floor in the roof providing a workroom for cutters and others engaged in the making of the waterproof garments for which the firm is renowned. As the whole building is thus devoted to the carrying on of a single business, the planning was simplified and the repetition of a bay unit not interrupted by considerations of division walls or additional doorways and staircases. The entrance to the showrooms is arranged in the centre of the five bays on the Haymarket front, with the entrance to the workrooms, etc., in Orange-street, while an emergency exit, which also affords separate access to the manager's room on a mezzanine floor, is provided at the north end of the Haymarket front: the quietly-treated masonry at this end serving to give solid abutment and to mark off the main lines of the façade from the adjoining building on that side. The ground, first, and second stories are combined in a two-story design, the lower trabeated and the upper arched, the third-floor level being arranged somewhat below the springing of the semi-circular arches, so that by means of a light and well-devised metal filling to the whole arched opening light is freely admitted to both floors. All the lights to the upper floors are filled with small quarries in lead cames, giving a certain texture to the large area of glass.

The success of the design depended entirely upon the continuation of the masonry piers down to the pavement level, and the demand for plate-glass was modified to this extent, that the architect was here enabled to carry out a logical construction in masonry with large voids which have nowhere the effect of weakening the structure or in reality of endangering its stability. The exact alignment of the piers on the two stories might have been avoided, but this is more noticeable in the illustrations than in the actual building. The return front to Orange-street consists of six bays similar in all respects to the main front, and the crowning cornice is carried round, with the balustrade above it broken by a series of stone dormers lighting the top floor. The treatment, as well as the detail of this upper part, has a strong French flavour which is as pleasing as it is unexpected, and the unbroken line of ridge to the slate roof contributes to the dignity of




**Business Premises, Haymarket.**

Mr. Walter Cave, F.R.I.B.A., Architect.

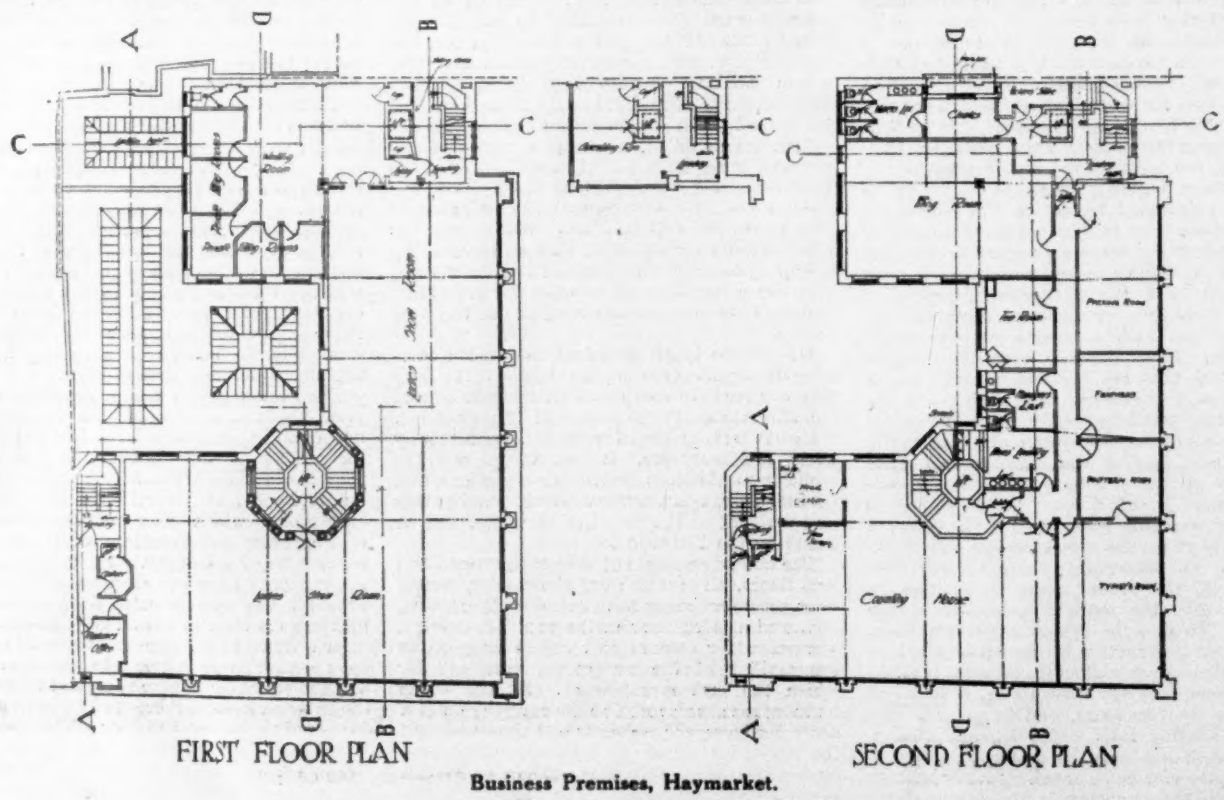
the whole composition. As will be seen from the plans, the arrangement of the upper floors allowed the lighting of the large ground-floor showroom to be supplemented by lantern lights, and a characteristic of the whole building is the attention that has been paid to its efficient lighting: the lantern lights to the workrooms on the top floor are not visible from the street level.

The chief feature internally is undoubtedly the large octagonal enclosure containing the principal staircase, which is placed centrally with the main entrance and carried from basement to second floor. Treated with round-arched and glazed openings in the sides towards the showrooms, and the upper floors obtaining direct light on two sides, it allowed of a series of short flights of steps with a passenger lift ingeniously arranged in the centre. On the outer side of the stairs is an oak balustrade consisting of turned balusters and handrail, and on the inner side against the lift enclosure a dado with capping following the same line as the handrail and of a section which enables it to serve the same purpose; the ramps and changing levels give some very pleasing perspective effects, as may be judged from the photograph taken from one of the landings and reproduced on page 119. The rooms throughout are finished white with hardwood joinery to the more important, and the general impression of the spacious showrooms and well-finished fittings is that they have been carefully thought out to serve the several purposes for which they are intended.

The general contractors were Messrs. Prestige, the clerk of works was Mr. Frank Comport, and the quantity surveyors were Messrs. Tucker & Huntley, of Buckingham-street, Strand.

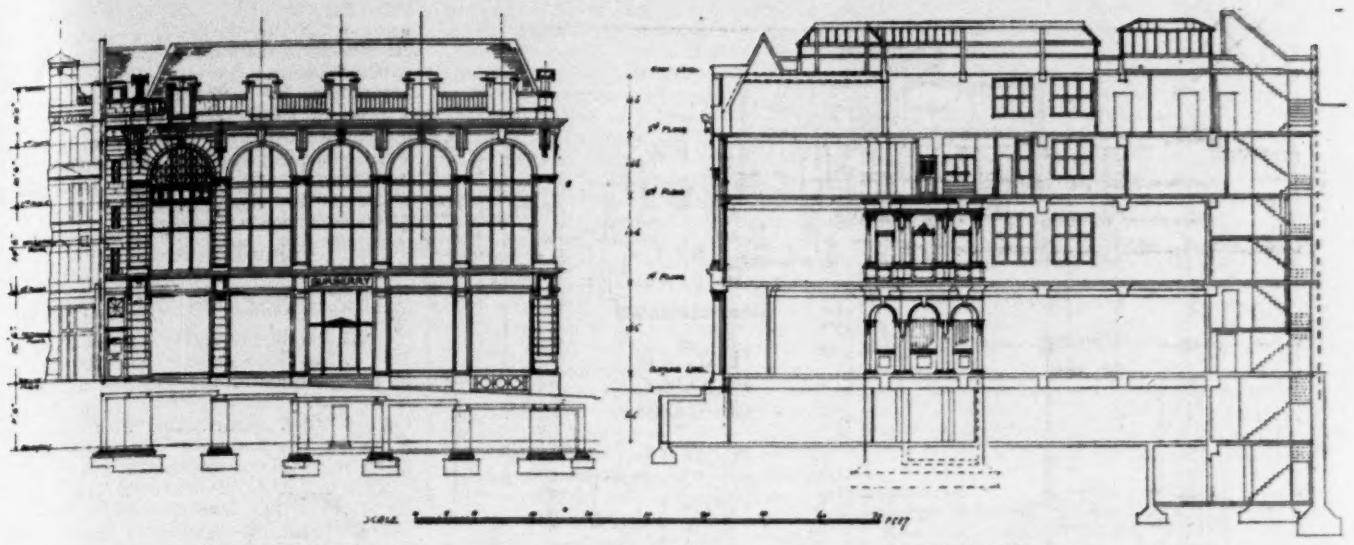
The whole of the stone used in the erection of the building was Portland Whitbed, supplied and worked by the Bath and Portland Stone Firms, Ltd., and it came from their quarries at Wakeham.

The large steel windows lighting the first and second floors were executed by Messrs. George Wragge, Ltd., and are 20 ft. high and 10 ft.




**Business Premises, Haymarket.**

Mr. Walter Cave, F.R.I.B.A., Architect.



Front Elevation. Longitudinal Section.

**Business Premises, Haymarket.**

**Mr. Walter Cave, F.R.I.B.A., Architect.**

wide. The solid decorative panel at the second floor level was cast in iron, with open grids for air inlets to the second floor. The large casements are hung to open in and out for safety cleaning, the others being hung at head to push out, and are worked by solid bronze screw gear. All these windows are glazed with special Luxfer fire-resisting glass. The ornamental roof ridge and hips are of cast lead, specially modelled and executed by Messrs. George Wragge, Ltd.

The Acme Flooring and Paving Company (1904), Ltd., Gainsborough-road, Victoria Park, London, have laid the whole of the flooring in the building on W. Duffy's patent "Immovable-Acme" system in pitch-pine and oak, the latter floors being wax polished.

Messrs. Smith, Major, & Stevens, Ltd., lift engineers, Northampton, have installed two electric lifts, each of 10-cwt. capacity, one fitted in the main staircase for passenger use and the other for goods traffic. The passenger lift is of the latest type, with full automatic push-button control, and all the firm's special features are embodied. The cage is provided with a collapsible gate, having an electric switch attached to it, and until the cage gate, as well as the landing gates, is closed the cage cannot be moved from the floor either by a person in the cage or by a call from another landing. The goods lift is also controlled by a push-button system of a simpler nature.

The fire appliances were supplied by Messrs. Mather & Platt, Queen Anne's Chambers, Westminster, S.W.

We may add that the steel and iron construction was by Messrs. R. Moreland & Son, Ltd.; the carving and sculpture by Mr. W. S. Frith, Chelsea; glass by the Challenge Glazing Company; heating and ventilation by Messrs. R. Crittall & Co., Ltd.; lighting by Messrs. Higgins & Griffiths; plastering work by Messrs. G. Jackson & Sons, Ltd.; fittings, decoration, furnishing, etc., by Messrs. Pryor & Part, Ltd.

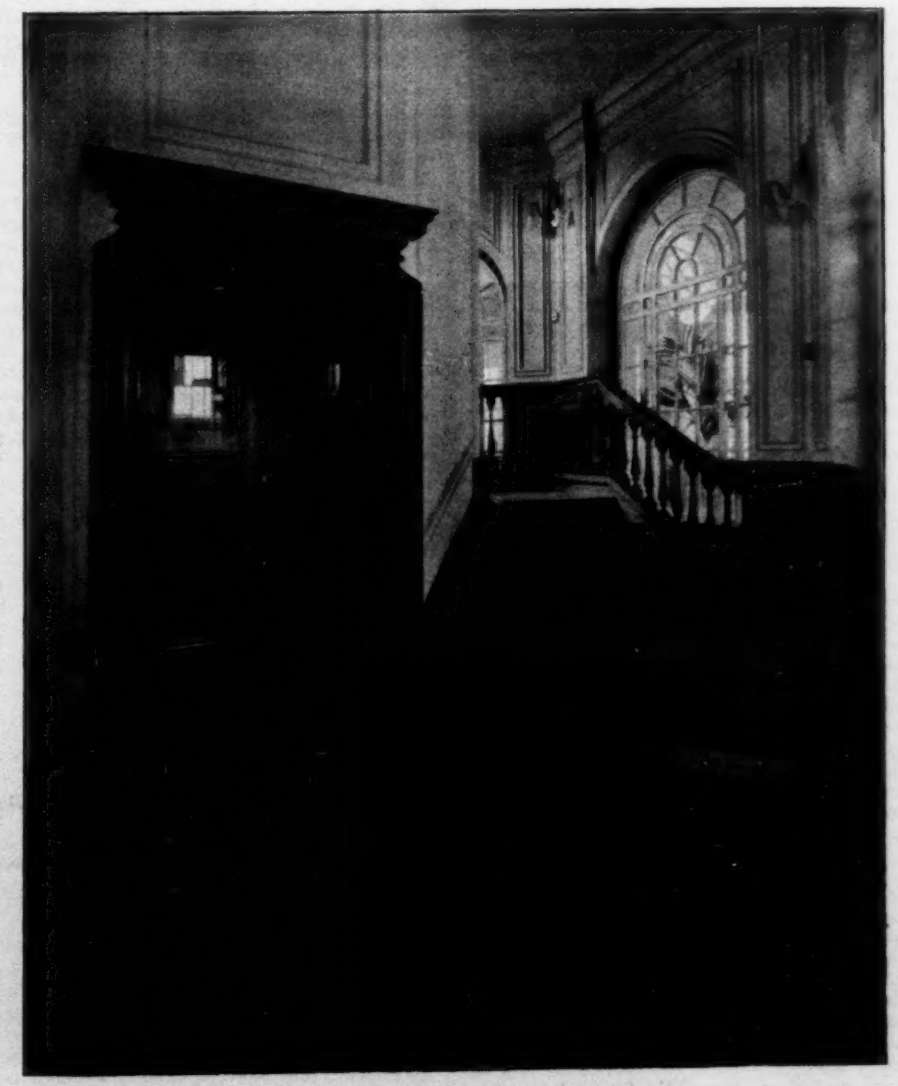
## ACETYLENE LIGHTING.

At a meeting of the Illuminating Engineering Society, held at the Royal Society of Arts, John-street, Adelphi, London, on the 14th inst., Mr. C. Hoddle read an interesting paper on "Acetylene Lighting," from which we take the following:—

"A very important discovery in connexion with the successful use of acetylene for lighting purposes is the burner. To-day there are many good ones on the market. Two typical varieties are the Bray Elta and Ota, used mainly for house lighting, and the Roni, mainly for motor and portable lamps. The Elta utilises two burners with flames impinging on one another, each burner having two very fine holes. The cross-jet principle is very widely used in modern acetylene burners, as it leads to a distinct gain in efficiency; moreover, if one of the burners becomes slightly choked up, the other will continue to give its full value. On the other hand, if one burner is partly stopped up, the flame may tend to shoot out somewhat. Consequently, this type of burner is not much used for motor-car headlights, etc., having lenses and mirrors quite near to the flame, and the Roni type is here preferred. This consists of a single burner having a slot instead of pin-holes. There is no danger of this comparatively large aperture becoming stopped up, and no risk of cracking adjacent glass surfaces.

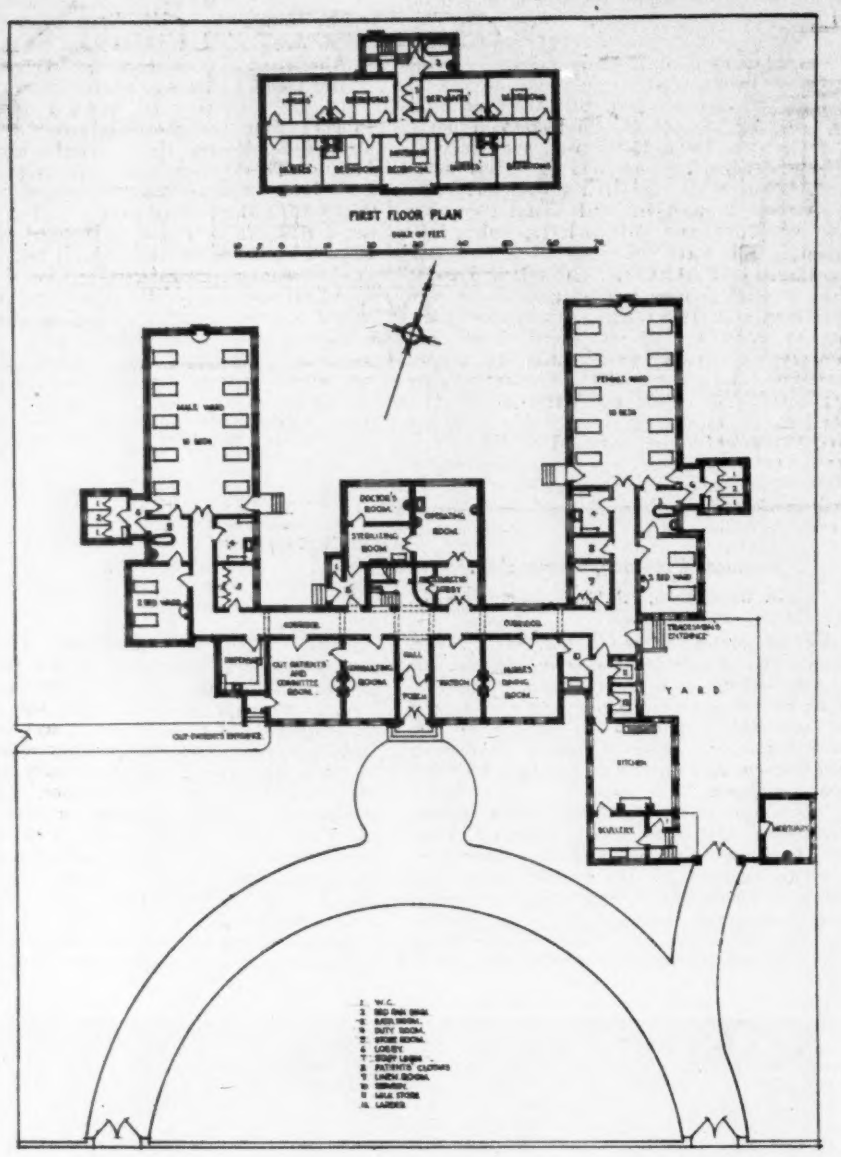
Acetylene burners should, with proper treatment, last a very long time. I know of a house in which many of them have been used for seven years, and are still doing good service. The range of consumption ordinarily employed varies from ¼ cubic ft. to 1 cubic ft., the corresponding candle-power being about 10—50. The pressure recommended is usually about 4 in. (water), and in all good acetylene appliances measures are taken to secure that this is practically constant.

I, personally, do not favour the use of incandescent mantles with acetylene. I believe I have tried almost every make, but up to now have not found a really reliable one. Like the ordinary burner, the gas orifice is so small that, sooner or later, a bit of grit or dust will partially choke it, and the correct Bunsen flame is upset, the mantle becomes a black mass, and then—well, the less said the better. But, really, why do we require mantles at all? We have already a splendid pure white light, which we consider to resemble daylight very closely, and



**Business Premises, Haymarket.**

**Mr. Walter Cave, F.R.I.B.A., Architect.**




**Hounslow Hospital.**

**Mr. J. Ernest Franck, A.R.I.B.A., Architect.**

we can obtain about 40 candle-power for a consumption of 1 cubic ft. of gas per hour, which means (at the present price of calcium carbide, 13s. 6d. per cwt.) approximately 7d. per 1,000 candle-hours. The light is quite constant, and can be used, if necessary, in burners giving only 10 candle-power. In an ordinary house-lighting installation we use burners ranging from ⅓ cubic ft. to 1 cubic ft., according to position; but the burner most generally in use, and most certainly the favourite, is that taking ½ cubic ft. per hour. This is generally considered the standard.

We can also turn the lights up or down, and regulate the illumination much more perfectly than is possible when mantles are used. We can readily utilise switches for controlling the lights from a distance. The device employed is a press-button stopcock, which turns off all but a glimmer of light, which is kept burning continuously. This enables a person entering a room to turn on the full light at once, whilst the pilot lights are enough to make the position of the switch and surroundings just visible.

### Country House Lighting.

It may be of interest to give some details as to the cost of lighting an average country house by acetylene, assuming that such a house requires fifty lights, giving a total candle-power of about 1,000 with two-thirds of the lights on (as is usually the case); in these circumstances the running cost would amount to about 7d. per hour. If the majority of the lights are used on an average three hours per night, the cost of carbide per year would be about 30*l*. The total cost of installation, including general average fittings, piping, and everything, should not be more than 100*l*. The generator installed in a moderately big house of this kind would probably be of the twin type, which enables one section of the generator to be used while the other is being recharged. The charge in the two generators would keep the lights going for eight hours (assuming, as before, that only two-thirds of the lights are going at once).

### Safety.

As regards safety, I consider no artificial illuminant could well be safer. An explosion cannot take place with less than 3 per cent. acetylene, which would mean that in a small room of, say, 10 ft.×10 ft.×10 ft., or 1,000 cubic ft. air-space, 30 cubic ft. of acetylene would be required to get an explosion. In other words, a 1-ft. burner (which would be ample to light such a room) would have to be left full on for thirty hours to get an explosive mixture, even if the room was sealed airtight; in the meantime, the smell would become unbearable. Of course, I am aware accidents have occurred, but I think I am right in saying that nearly every one has been caused by amateur-made plants and compo-pipe installations.

### Self-contained and Portable System of Lighting.

Another great advantage of acetylene is its self-contained and portable nature. This advantage comes out very clearly in emergency lighting; for example, for illuminating docks while a vessel is unloading, roadway alterations, and buildings in course of construction. The London County Council now use acetylene flares and hand lamps to a very large extent for tramway repairs, and they are also being largely employed on railways. As an illustration of the use of acetylene for remote railway-stations, we may take Brockenhurst-station on the London and South-Western Railway. This is lighted throughout by acetylene, 200 burners, with a total of 9,000 candle-power in all, being employed. All these lamps are furnished with gas from a single central station, the platform burners consuming 1 cubic ft. per hour, and the signal light burners consuming ¼ cubic ft. per hour only.

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## HOUNSLOW HOSPITAL.

THIS building occupies a site on the north side of the Staines-road about 300 yds. west of the junction of the Staines-road with the Bath-road. The main front of the administrative block faces south, with the kitchen block on the east side and the wards and operating-room on the north side.

The hospital, of which a plan and exterior view are here reproduced, has been erected from the designs of Mr. J. Ernest Franck, A.R.I.B.A., M.R.San.I., and has the following accommodation:—Two ten-bed wards and two two-bed wards, or twelve beds in the male and female ward blocks respectively, an operating-room, etc., and out-patients' department. Each ward block has a bathroom placed between the two wards, with the sanitary annex adjacent and entered from the ten-bed ward or the bath-room. The duty-rooms are placed on the opposite side of the ward corridors, with supervision over the ten-bed ward; each duty-room is fitted with a sink, small dresser, food cupboard, and gas-cooker.

The front entrance gives access to the main corridor, running east and west, on the north side of which are placed the dispensary committee-room—also used as the out-patients' waiting-room—the consulting-room, and matron and nurses' sitting-rooms. On the north side of this corridor are placed the staircase leading to the nurses' bedrooms and the operating-room; this latter is separated from the main corridor by an anæsthetic lobby. The sterilising-room and a private room for the doctors are placed next the operating-room, and, while communicating with the latter, have a separate entrance from the main corridor. The dispensary and out-patients' room are so placed that no out-patient enters any part of the main corridor or ward blocks.

At the east end of the main corridor is placed the kitchen block; the access to the kitchen is made by a short and separately-ventilated corridor, having the larders on one side and a servery or pantry placed between this corridor and the nurses' dining-room. There is a yard next the kitchen block, with a small mortuary situated on the further side or eastern boundary of the site.

The available amount of money to be expended on the building was limited, and therefore the façade is as simple as possible consistent with architectural design. The walls externally are faced with local stocks, the base, quoins, and string-course being of specially picked dark stocks almost black in colour. The small amount of stone dressings to the main entrance are carried out in Portland stone. The roofs are covered with Delabole slating, with the exception of the ward blocks, which are covered with reinforced asphalt, as these have been finished as flats so as to allow of a future extension by means of a second story.

The ward blocks have an air-space beneath them, ventilated by the arched openings to the external air; the floors are formed in concrete reinforced with expanded metal and finished internally with pitch-pine nailed direct to coke-breeze screeding, the coved skirting being executed in teak. The floors of the corridors, operating block, bathrooms, and sanitary annexes are finished in terrazzo, with circular angles next the walls. The walls are finished internally in Sirapite, having circular coves to all internal angles.

The work has been carried out in an expeditious manner and with thorough efficiency by the general contractor, Mr. William Lacey, of Staines-road, Hounslow. The heating installation and hot and cold water supplies have been executed by the Albion Iron Company, and electric lighting, electric bells, and internal telephones have been installed by Mr. D. J. Macdonald, of

High-street, Hounslow; and the following works or fittings have been carried out or supplied by the various sub-contractors as follows:—Terrazzo pavings, Messrs. Van Straaten & Co.; grates, Messrs. Bratt Colbran and the Teale Fireplace Company.

The surrounds to the ward grates and the bedroom fireplaces have been executed in Carrara ware by Messrs. Doulton & Co.; fittings to operating-room and sanitary fittings, Messrs. J. Tylor & Sons; baths and sinks, Messrs. Doulton & Co.; door furniture and window fittings, Messrs. Pfeil Stedall & Co.; the gas and electric light fittings in the operating-room, by Messrs. Edgars, of Hammersmith; asphalt damp-courses and the reinforced asphalt work on the flats over the ward blocks, by the Excel Asphalte Company.

The mantelpieces in the administrative rooms have been made by Mr. Lacey, the contractor, from measured drawings of a Georgian mantelpiece, which is a good example of the best work executed about 1760. The original mantelpiece is in Heston House, and permission to reproduce this was given by the owner, Mr. W. H. Fenton, a member of the Hospital Committee.

The quantity surveyors are Messrs. Fleetwood, Sons, & Eversden, and Mr. Rishton acted as clerk of works.

## ENGINEERING NOTES.

**Mode of Fracture of a Falling Chimney.** In felling a tall chimney the usual method of procedure is to cut away masonry near the base of the shaft and to insert timber supports which can be destroyed by fire, and so cause the structure to fall in the required direction. It is understood by those who have studied applied mechanics that the movement of a falling chimney must begin at the bottom and that the effect of inertia is evidenced by the reluctance of the upper part to participate immediately in the movement commenced below. The result is that the chimney-stack is fractured at one or more points before reaching the ground. These principles were illustrated in a striking manner during the felling of a tall chimney in New Jersey, where a photographer was fortunately able to take a view of the shaft at the instant of collapse. This photograph, as reproduced in a recent number of the *Engineering Record*, shows four well-defined breaks at regular intervals apart on the falling side of the structure, demonstrating the increasing action of inertia towards the upper part of the shaft, and the accuracy of the theory explaining the mode of fracture of a falling chimney-shaft.

**Firemen and Roof Gardens.** Fifteen out of forty-five firemen's houses which are being built for Greater New York are to be provided with roof gardens, and twelve open-air gardens have been already constructed in addition. These gardens are of two types, uncovered and covered, the former surrounded by brick parapets 3 ft. in height, resembling in general arrangement those of ancient Rome. The firemen will be permitted to beautify these gardens with plants and shrubs, reserving the main space for exercise. The other type consists of covered gardens on a level with the third floor, and opening directly into the recreation-rooms, these gardens being 20 ft. deep, and access to the gardens being obtained by glass doors opening out of the recreation-rooms. The new houses will be provided with motor apparatus and with 75-ft. and 85-ft. ladders, which, it is claimed, will form the basis of a new fire-fighting system which will enable New York to deal with the dangers arising from fires in high buildings, and place it ahead of any other cities in the world in the protection of fire and property. Ordinary bath tubs are being abandoned for shower-baths, the latter being considered as being cleaner, more sanitary, and cheaper, a practice which is followed in the free baths which are provided in New York for the poorer inhabitants with beneficial results. The suggestion of roof gardens is one which might well merit consideration in similar buildings in some of our more crowded centres of population.

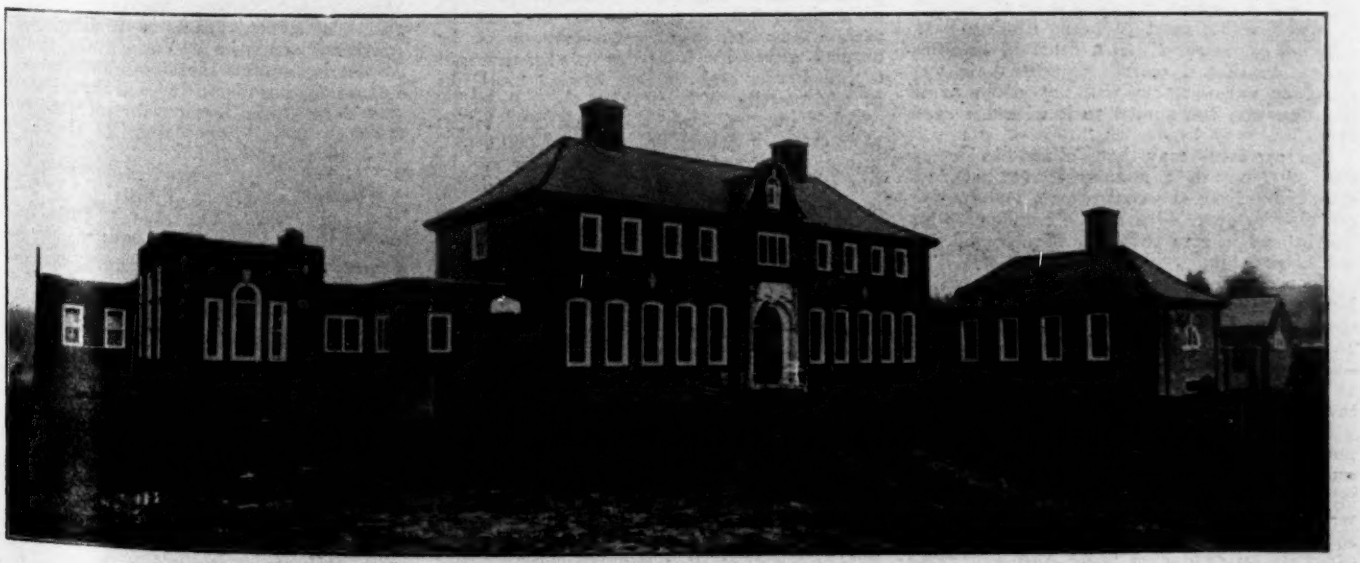
**Unusual Underpinning Operations.** Owing to the removal of a knoll in Pittsburg, locally described as the "hump," the street level in several city blocks has been considerably lowered, entailing upon property owners the necessity for altering their buildings to suit the new conditions. In one case mentioned by the *Engineering Record* a three-story brick building, 30 ft. wide, had footings on shale rock, which was cut away to a depth of nearly 20 ft. Provision was made for maintaining the structure at its original height by excavating below the foundations and building in new stories down to the revised street level. Accordingly the rock between the cellar walls was blasted out and recesses 5 ft. to 6 ft. wide by 2 ft. deep were chambered out of the face of the rock in alternate sections under the old footings and masonry was built in them, forming piers underpinning the original walls. The intervening sections were afterwards treated in the same way, the result being to form new side walls for the new lower stories.

**The Production of Fireclay.** It is satisfactory to note from an article on the preparation and use of refractory materials, in the *Times Engineering Supplement*, that the British manufacturers of fireclays are now able to cope successfully with foreign competition. The preparation of refractory products involves difficulties somewhat akin to those encountered in the case of Portland cement manufacture, and which cannot be investigated readily in consequence of the great and rapid temperature changes occurring in the process of production. Nevertheless by laborious investigations and by the results of practical experience, manufacturers are now able to provide a wide range of fireclays from which the various grades required for different purposes can be selected.

**The Jumna Bridges, Allahabad and Delhi.** Messrs. Rendel & Robertson, of Westminster, have made the designs for the steelwork of the two bridges which the East Indian Railway Company are building across the Jumna; that for the Allahabad bridge is supplied by Messrs. Head, Wrightson, & Co., Ltd., of Thornaby-on-Tees, and that for the Delhi bridge by the Patent Shaft and Axletree Company, Ltd., of Wednesbury. It is anticipated that the work will be finished in June. In each instance the original piers are utilised as they were made wide enough for a double line of railway, nearly fifty years ago. The old girders will be strengthened and supplemented with new ones, hog-backed, with Linville trusses, for the lines above them and the carriageway beneath, between the girders. The bridges are of twelve spans (Delhi) and fourteen spans (Allahabad), and consist of iron girders, having a span of 220 ft., upon stone piers.

**Dover Harbour Station.** The widening of the Admiralty Pier is now so far advanced that the South Eastern and Chatham Railway Company have invited tenders for supply of the steel and the erection of the station buildings. For the station foundations some 1,300 reinforced concrete piles on the Considère system are being driven, ranging in length from 38 ft. to 72 ft. The tops of the piles will be connected with slabs along the station walls, and a concrete raft will be formed elsewhere over the site of the buildings. The plans, prepared by the engineers to the railway company, provide for the construction of two island platforms 700 ft. long and four lines of rails. The main roof of the station, 770 ft. long, will be of the braced arch type. Four berths will be provided for steamers and one inset landing stage for the paddle boats employed in the Continental passenger services. The site for the new marine station will be leased to the railway company by the Dover Harbour Board, and it is hoped that the new station will be completed by June, 1914.

**Heating and Ventilating Lecture Halls.** In the course of experiments carried out during recent years at Cambridge various systems have been tried, and Professor Lock says that the tests have led to the conclusion that a crowded room should not be warmed by heated air. The fresh air supplied for breathing should be cooler than the air in the room, and the latter should be warmed independently. It is said that observations extending over two years of a hall seating 1,000 persons have established the fact that the cooler the fresh air admitted the more pleasant is the atmosphere, and that when the hall is full it is difficult to obtain air cool enough, even when the outer temperature is 40 deg. Fahr. In the case of laboratories warmed by air heated by being passed over pipes the sense of oppression and discomfort experienced by students is much greater where steam pipes are used than where hot-water pipes are employed, and it appears that the invigorating properties of air are destroyed by excessive heating.



**Hounslow Hospital: General View.**
Mr. J. Ernest Franck, A.R.I.B.A., Architect.

# THE BUILDING TRADE.

## THE CONTRACTOR'S POSITION IN A BUILDING CONTRACT.

IN most of the affairs of life the motto "Suaviter in modo, fortiter in re" holds good, but it specially applies to the position which the building contractor should take up. His avocation is one which is beset with perils which have to be cheerfully met and overcome. His responsibilities are manifold. In the first place, he agrees to carry out for a fixed price work which may extend over considerable periods of time, during which the price of materials and labour may rise, labour troubles intervene, or weather prevent the economical execution of his contract.

It is true he has safeguarding clauses which enable him to claim more time, but this is no real compensation to a contractor for the additional expense and trouble which broken weather entails.

Then there is always the unknown personal equation of the architect under the contract. If a contractor has had previous experience, he knows what to expect; if not, it is an open question whether the architect will, or will not, interpret the provisions of contract and specification in a reasonable way. Such small points as giving prompt instructions on any points which may call for settlement, the issue of certificates, the provision of full and clear drawings, and the reasonable treatment of subcontractors are all points which may make the contractor's lot a comfortable or a trying one, or may involve him in actual pecuniary losses.

As to the question of reward for his labours, the building contractor, as a rule, has none of the opportunities which are open in great engineering contracts of making a coup. In the Mersey tunnel and other engineering contracts the nature of the obstacles to be met cannot be assessed with certainty, and sometimes it happens that a fortune is made out of such contracts.

With buildings, however, different conditions obtain. The work to be done is defined and its cost known within a small margin. Competition is so keen that it is in most cases almost a certainty that the successful contractor has at the best only a small margin standing to his credit—a margin which may readily be converted to a deficit by any of the eventualities to which we have made reference.

It is easy to imagine we are doing well because we are busily employed, but we fear in many cases contractors have been so employed while they were actually losing and not making money.

The remedy, as we see it, lies in a resolute determination on the contractors' part to refuse to indulge in premature optimism.

A legal document, whether it be a contract or specification, must be taken literally and not *cum grano salis*. In a court of law the contention that a certain agreement is unusual or unreasonable will not often avail the man who has agreed to it with his eyes open.

The architect may be inclined to interpret a clause in a manner convenient and reasonable from the contractor's standpoint, but may be overridden by the employer, who has in such a case the *force majeure* of the law behind him.

No one can blame a contractor or write him down as unreasonable for demanding clearness and precision on possible disputable points before he has become a party to a contract; but afterwards all he has to rely on is favour, which is a weak reed on which to lean.

To avoid putting oneself in any man's power is business and common sense. A good understanding may disappear like a mountain mist, but the provisions of a signed document will remain intact, and, even if it can be shown they are bad in law, the process of proof is an expensive one. And any sympathy which the contractor may obtain is a poor set-off for the loss which falls on him financially.

The broad fact will always remain that the builder who signs a contract does not ensure himself of a certain profit, but is taking a risk, a fact which he should never lose sight of in his operations.

## LIME-SAND BRICKS.

SINCE the introduction of lime-sand bricks for building purposes nearly ten years ago large quantities have been used in Germany and the United States, and smaller quantities in other countries. In Great Britain this variety of brick has made slow progress until recently, but as manufacturers of brick-making machinery are now offering apparatus specially designed for the production of lime-sand bricks it is probable that this form of building material will be much more widely adopted in the immediate future.

The advantages claimed for lime-sand bricks are that they are perfect in shape, uniform in size, require less mortar than clay bricks, and less plaster where used for interior wall surfaces, owing to the regularity of the work.

The constituent materials are mixed in proportions varying with the quality of the lime and the nature of the sand employed.

With clean, sharp sand, composed of well-graded particles of different sizes, about 5 per cent. of lime may be sufficient, other varieties of sand and lime requiring a proportion of the latter up to as much as 10 per cent. Fat lime of good quality is the most economical, hydraulic lime having to be used in larger proportions.

The average composition of lime-sand bricks is as follows:—Sand, 85 per cent.; lime, 8 per cent.; water, 7 per cent.

It is very important that the lime should be completely slaked and thoroughly mixed with the sand before the materials are fed into the press. If the hydration is not properly effected, the bricks will expand during the process of steam curing, with the result that they will crack or be of weak and friable character.

Ordinary methods of slaking, as adopted in general building practice, are quite unsuitable for lime to be used in the preparation of these bricks. Special methods of slaking, as dictated by experience, are now adopted, the procedure varying with the quality of the material and local conditions.

Ball mills are employed for fine grinding of the lime and tube mills for finely grinding the mixture of lime and sand. For mixing the materials, a mixing mill, including a pair of rollers working in a stationary pan, or a differential mixing machine with revolving blades, may be used. These appliances are obtainable in various sizes to suit individual requirements.

In order to obtain satisfactory results the press should be capable of exerting a pressure of at least 2 tons per square inch on the surface of the bricks. Pressure must be applied gradually in order to squeeze out occluded air, and facing bricks must be pressed equally on both sides.

After removal from the press the bricks are stacked on trucks holding from 600 to 800 bricks, and constructed so that they can be run into the seasoning chamber. The latter is similar in design to a steam disinfector or a chamber employed for the treatment of timber, and consists of a steel tube with a steam-tight door at one or at each end. The chamber is constructed for the steam pressure of about 120 lb. per square inch, the diameter being usually 6 ft. inside. Steam pipes and fittings are provided for the admission and control of steam supplied for curing purposes, the time during which the bricks are subjected to the action of the steam ranging from 8 to 10 hours.

### PETERSFIELD SEWAGE DISPOSAL.

The Petersfield Urban District Council have instructed Messrs. Taylor & Wallin (Mr. Harry W. Taylor, A.M.Inst.C.E.), of Newcastle-upon-Tyne and Birmingham, to report upon the sewage disposal of their town, particularly from the point of view of the cost of pumping as compared with gravitation.

## THE LONDON COUNTY COUNCIL AND TECHNICAL EDUCATION.

THE active interest taken by the London County Council in technical education is further illustrated by two circulars of which we have received copies from the Clerk of the Council.

One of these gives particulars of the courses of instruction for 1913 provided in London day schools at various centres for boys who intend to enter skilled trades with the object of becoming skilled workers, foremen and managers. Among the trades for which provision is made are: Furniture, Cabinet Making, and Woodwork—Woodcarving—Building, Carpentry, Bricklaying, Plumbing Painting, and Decorating and Architectural Drawing—Engineering and Metalworking. Students of building trades can take an architectural or professional course in the second or third year.

All the centres named in the circular are equipped with practical workshops and laboratories. Parents are invited to visit the schools and to consult the Organiser of Trade Schools for Boys if requiring advice on the choice of a suitable career for their sons.

The other circular to which we refer relates to Scholarships and Exhibitions in Science and Technology for 1913. Of these the County Council are prepared to award fifteen scholarships and 180 evening exhibitions.

The scholarships comprise free education in day classes at polytechnics, technical institutes, or institutions of university rank, the cost of books up to 7*l.* 10*s.* a year, and in approved cases, maintenance grants up to 50*l.* a year, and examination fees at the University of London. The scholarships are tenable for two years, with possible extension for a third year.

The exhibitions cover payment of tuition fees in evening classes together with a grant of 3*l.* a year; they are tenable for two years, with possible extension for a third year.

The scholarships and exhibitions are obtainable only by means of competitive examinations, for particulars of which and the conditions applying to the awards those interested can obtain from the Education Offices of the London County Council, Victoria Embankment.

## BUILDING PLANS AND BUILDING PROSPECTS.

THE returns published of the plans passed by ninety-six of the principal urban district councils in the last quarter of 1912 as compared with the same quarter 1911 show a net increase of 187,423*l.*, or 5·6 per cent. The increase has taken place under the headings of the *Labour Gazette* "Factories and Workshops" and "Other Buildings—Alterations and Additions," and is confined to the northern counties, Yorkshire and the Midlands, and therefore illustrates the increasing manufacturing activity of the past year. In Outer London the increase is only 3,876*l.*, and all other districts showed substantial decreases.

The stagnation in the building of dwelling-houses continues. In all districts the increase was only 628*l.* The above figures do not embrace the County of London.

## THE NATIONAL FEDERATION OF BUILDING TRADE EMPLOYERS OF GREAT BRITAIN AND IRELAND.

THE annual general meeting of the National Federation of Building Trade Employers of Great Britain and Ireland will be held at the Trocadero Restaurant, Piccadilly Circus, on Wednesday, the 29th inst., at 10.30 a.m., when some important questions will be considered, including Provisional Sums in Quantities, Finance Act Valuation, Form of Contracts, Control of Trade Conditions, National Board of Conciliation, etc. The annual report will be received, and election of President and officers will take place.

## LONDON MASTER BUILDERS' ASSOCIATION.

A MEETING of the Council was held at Koh-i-Noor House, Kingsway, W.C., on the 16th inst., the chair being occupied by Mr. James S. Holliday, President.

Before the business on the agenda was taken the President moved that the hearty congratulations of the Council be conveyed to Sir Herbert H. Bartlett, Bart., an esteemed member and Past-President of the Association, upon the honour recently conferred upon him, and this, having been seconded by Mr. Wm. Shepherd, was agreed to unanimously and instructions given that it be recorded on the minutes.

Reports from the Special Committees were received and approved.

The various questions in respect to the Board of Trade Courts of Referees and the forms issued from the Local Offices in connexion with Part II. of the National Insurance Act, 1911, were carefully considered and instructions given to issue a circular letter to members in respect to the latter.

Correspondence relating to trade matters was read.

Nominations of Messrs. Todd & Newman, Stannard-road, Hackney, and Messrs. A. Roberts & Co., Ltd., Earl's Court-road, S.W., as ordinary members were accepted.

## THE BUILDERS' FOREMEN'S ASSOCIATION.

THE nineteenth annual dinner of this Association was held on Saturday last at the Holborn Restaurant. Mr. E. Thomas (Messrs. Thomas & Edge) presided, and among those present were Messrs. J. Gathercole, E. Gathercole, T. Lindley (Messrs. Eastwood & Co.), W. Faldo (Messrs. T. Faldo & Co.), W. Jenks (Messrs. Higgs & Hill), and Ollis (Associated Portland Cement Company).

The Chairman, in proposing the toast of the evening, "The Builders' Foremen's Association," said that the Association had been particularly fortunate throughout its existence in having a good executive, who had regarded the work as a labour of love. It had also been very fortunate in having a good succession of Presidents, and he understood that the immediate Past-President, Mr. Holt, was considered to be one of the very best. The present President, Mr. Evans, enjoyed the confidence and esteem of all the members, and bid fair to be as successful in his year of office as any of his predecessors. Regarding the Association, it was not to be wondered at that builders' foremen should have banded themselves together for mutual help and protection. They were engaged in an occupation in which self-help was one of the main essentials. Although their voting strength was not sufficient to attract the attention of candidates for Parliamentary honours, yet they were not altogether ignored by the State when it became a question of collecting the income tax. The building trade was constantly changing in methods and in character, and if builders' foremen were to keep up with the times they must be students all their days. It was small wonder that they had banded themselves together for mutual strength, for the advancement of their general knowledge, for assistance in securing employment, for legal assistance should they require it; to lay by an amount for insurance, and to make provision for a small pension for aged members. More worthy objects could not be conceived, and they had managed their finances so successfully as to be able to contemplate adding to the amount of the pensions. Such increased advantages should make the Association more attractive and deserved to be recognised by an influx of many new members.

Mr. T. Evans, the President, in responding to the toast, remarked that they felt honoured in having as their Chairman one of the master builders of London, supported as he was by architects, surveyors, and a large number of representatives of the allied trades. The successes of the past encouraged them to go forward with the Association and try to make it even a greater success in the future. When he (Mr. Evans) was treasurer some years ago, they had about 47*l.* in the Post Office Savings Bank; to-day they had something like 2,300*l.* invested. One of the chief objects of the Association was to afford members an opportunity of visiting buildings either in course of construction or when they were completed, by which means they were able to gather information in the latest methods of construction work and the materials used. They all knew that continual changes were taking place in their work, and that the specialist kept recommending some new material to supersede the existing ones. In some cases those new materials were not much of an improvement, but whether they liked it or not they had to recognise that they were living in a progressive age, and therefore they must adapt themselves to new ideas and gain all the information they possibly could. He often wondered that they did not get a larger number of younger foremen to join the Association, in view of the advantages which it conferred upon the trade. He hoped they would still continue to increase the pension fund, especially in view of the brighter times which he felt sure were before the building trade.

Mr. R. Marsh Allen proposed "The Building Trades," and expressed the confident belief that the trade, after the bad times it had been having during the past six or seven years, was now going to see things much brisker in all directions.

Mr. Walter Lawrence, jun., who responded, said he had hoped that the President of the London Master Builders' Association, Mr. Holliday, would have been present to reply to the toast, but he was prevented from being present by a prior engagement. With regard to the building trade, the part played by the foremen in making jobs a success was a very great one. He agreed with what had been said as to the improved prospects before the trade, and they all hoped the improvement had come to stay. Having referred in complimentary terms to the honour of knighthood recently conferred upon Sir Herbert H. Bartlett, senior of the firm of Messrs. Perry & Co., Mr. Lawrence said that during the past year the London Master Builders' Association had been strenuously engaged in drawing up fresh working rules and arranging rates of pay for certain trades. They had not yet arranged with the whole of the trades, but he hoped they would come in in the near future, and that there would be no strikes to mar the boom which they all hoped was near at hand. There was one disease which the building trade suffered from, and, in some cases, in rather an acute form, the disease known as "subcontractoritis." There was no doubt that a good deal of friction arose on a good many jobs from the attitude adopted by the subcontractors. The subcontractor had come to stay, and they must make the best of him. What they wanted was a better understanding between the architect, the builder, and the subcontractor. He was hoping that in the near future a form of subcontract would be agreed upon by the Royal Institute of British Architects, which would be before the subcontractor when he submitted his price for the work he had to do, and then he could have no complaint whatever. The greater part of the friction that now arose was that, when he submitted an estimate to the architect, he was not aware that he had to carry the work out under a contractor, neither was he aware that he had to comply with the terms of the principal contract—information which, in his (the speaker's) opinion, the subcontractor ought to have. It needed a strong attitude to be taken by the builders to bring to the architect's notice the fact that it was only reasonable that the subcontractor should bear his share of the responsibility for his part of the work, and that the builder should not be burdened with the whole of it. He was strongly of opinion that the builder's general foreman on the job should be the boss, and should not be subjected to all those petty annoyances that he met with by the subcontractor's men coming to the job and more or less taking possession of it. The architects had helped them in the matter, and he believed they would get a subcontract which would be agreeable to everyone.

Mr. A. C. David (Messrs. Roberts, Adlard, & Co.), in submitting the toast of "The Architects and Surveyors," said that the bad prices was at the bottom of a great deal of the trouble that architects, as well as the rest of the fraternity, suffered from.

Mr. Lionel U. Grace, F.R.I.B.A., responded.

The concluding toasts were "The Visitors," proposed by Mr. A. Field, Vice-President, responded to by Mr. T. Sturge Cotterell, J.P., and "The Chairman," proposed by Mr. W. Faldo.

During the evening Mr. G. Thompson, who edits the *Quarterly Journal* of the Association, was presented with a purse of gold on behalf of the members by Mr. Evans, the President.

### WATERWORKS, MERTHYR.

The Merthyr Corporation have accepted the tender of Messrs. Robert McAlpine & Co., of Victoria-street, Westminster, at 232,000*l.*, for the construction of a storage reservoir at Pontsticill, in the Taff Fechan Valley, Breconshire.

## A NEW FOLDING SCAFFOLD.

WE illustrate the invention of Mr. Heathman, of Parson's Green, Fulham, S.W., of a useful scaffold for use in premises where every inch of storage space is a consideration. The "Shorrolds" pattern telescopic folding scaffold trestle can be stored in a small space and easily carried about premises to the position it is desired to be set up for use. The trolley base is upon castors, so that it may be of service to move goods upon, and a box or basket made to size can be fixed on it for daily warehouse service, and be available for the trestles for decorating purposes out of

the usual business hours. The trestles are set up and fixed to the carriage by set screws, and the sliding section easily adjusted to the height requisite to reach the work to be done. Two sets can be used conjointly with scaffold boards and protection rails, or one scaffold used separately, as varying circumstances necessitate. The whole can be carried upon a barrow or cart, and is made in several sections, so that they may be used for very low as well as high rooms, and, further, the ladders can be used quite independently of the trolley base to lean against walls, as three separate ladders to each set or as self-standing trestles.

## GENERAL BUILDING NEWS.

### NEW BUILDINGS IN LONDON.

Extensive buildings Holborn, E.C.; General Building Company, 45 and 46, Chandos-street, S.W. Cinema theatre Brooksby-walk, Homerton, N.E.; Mr. H. T. Adams, 40, Chalmer-road, Homerton, N.E. Lodge, Westminster, S.W., for the London Diocesan G.F.S. Society; Mr. S. Ayling, architect, 8, Dartmouth-street, Westminster, S.W. Alterations to 100, Strand, W.C.; Mr. N. C. Wheeler, Manager, Simpson's Restaurant, 100-102, Strand, W.C. Alterations to Queen's Head Hotel, Strand, W.C., for Messrs. A & S. Gatti, Ltd., 436, Strand, W.C.

### TRADE NEWS.

Boyle's latest patent "air-pump" ventilators have been applied to Staplefield Church, Staplefield, Sussex.

The New Picture Theatre, Reddish, is being ventilated by means of Shorland's patent exhaust roof ventilators and special inlet ventilators, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

Messrs. C. Jennings & Co., timber merchants, Bristol, have secured silver medal for their display of the woodwork shown at Manchester Winter Exhibition, Rusholme, Manchester. The display included fretwork screens and arches, doors in various designs, polished teak shop front, stairs, newels, and balusters, mantelpieces, and various joinery in hardwood; fencing, garden gates, and balcony balustrading in various designs. The firm will be exhibiting in the Olympia Exhibition, London, April 12 to 26.

We have received a neat calendar from Messrs. Walter Laurence & Son, building contractors, of 21, Finsbury-circus, E.C. The date block is at the bottom of the card, which is attractively got up.

### NORTH STAFFORDSHIRE BUILDING TRADES FEDERATION.

At a meeting of the North Staffordshire Building Trades Federation, held at Hanley, a large increase in the membership was reported. Recognising the importance of direct representation on the County Borough Council, the Federation resolved to support the election of a representative to the Council at the first opportunity. The meeting also agreed to seek to get enforced in the district the provision by all contractors of suitable messrooms and sanitary conveniences for their workmen on all buildings in course of erection. The bricklayers' labourers reported that they had given notice for an advance of their wages from 6d. to 7d. per hour.

## APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

THE following applications were dealt with by the Building Acts Committee during the recess of the London County Council:—

*Lines of Frontage and Projections.*

*City of London.*—Erection of a balcony in front of No. 70, Fleet-street, City (Messrs. Murray, Delves, & Murray for Messrs. Sweetings Ltd.).—Consent.

*Fulham.*—Erection of bay-windows and porches to houses on both sides of Rannoch-road, Fulham (Mr. C. H. Welch for Messrs. Allen & Norris).—Consent.

*Fulham.*—Erection of bay-windows and porches to houses on both sides of Bowfell-road, Skelwith-road, and Colwith-road, Fulham, and bargeboards to houses on the northern side of Wingrave-road (Messrs. Allen & Norris).—Consent.

*Greenwich.*—Erection of an iron and glass porch at the entrance to No. 4, St. John's-park, Greenwich (Messrs. T. H. Sawyer & Son for Mr. W. O. Smith).—Consent.

*Hackney, Central.*—Retention of a wood and glass porch in front of No. 2, Lenthall-road, Hackney (Mr. F. E. Harris for Mr. Solomon).—Consent.

*Hampstead.*—Four signs at No. 341, Finchley-road, Hampstead (Messrs. W. Fowler & Co.).—Consent.

*Hampstead.*—Erection of pilasters and a canopy in front of No. 339, Finchley-road, Hampstead (Mr. T. Wilson).—Consent.

*Kensington, North.*—Erection of a porch in front of a school building on the northern side of Treadgold-street, Kensington (Messrs. John F. Bentley, Son, & Marshall).—Consent.

*Kensington, North.*—Erection of projecting bay-windows to houses on the western side of St. Helen's-gardens, Kensington, and an addition at the flank of the house next to the northern side of Oxford-gardens (Mr. A. S. Franklin).—Consent.

*Marylebone, East.*—Erection of projecting balconies at Nos. 159 to 165, Great Portland-street, St. Marylebone, abutting also upon Weymouth-street (Mr. R. Angell).—Consent.

*Marylebone, West.*—Erection of a bay-window at No. 2, Melina-place, St. Marylebone (Mr. H. W. Binns).—Consent.

*Paddington, South.*—Retention of an oriel-window at No. 13, St. Stephen's-square, Bayswater (Mr. E. J. Stubbs for Messrs. Bradley & Sons, Ltd.).—Consent.

*St. Pancras, South.*—Erection of bay-windows to a building at the corner of Hunter-street and Handel-street, St. Pancras (Mr. A. Davis).—Consent.

*Wandsworth.*—Erection of wooden porches, oriel-windows, and overhanging gables to houses on the northern and southern sides of Downton-avenue, and the northern and southern sides of Cricklade-avenue, Wandsworth (Mr. J. Copp).—Consent.

*Wandsworth.*—Erection of an addition to a showcase at No. 121, Streatham High-road, Wandsworth (Messrs. E. Pollard & Co., Ltd., for Mr. Pratt).—Consent.

*Woolwich.*—Erection of a building on the southern side of High-street, Plumstead, westward of No. 218 (Mr. W. Pearman for Mr. M. Goldstein).—Consent.

*Woolwich.*—Erection of a building on the northern side of High-street, Eltham (Mr. F. H. Buen for the Eltham Cinema Company, Ltd.).—Consent.

*Width of Way.*

*Deptford.*—Erection of a building to abut upon Hales-street and Stanhope-street, and a street between Hales-street and Stanhope-street, Deptford (Mr. F. Warman for the Ragged School Union).—Consent.

*Hammersmith.*—Erection of a building upon the site of Nos. 171, 173, and 175, Hammersmith-road, Hammersmith (Messrs. T. J. Messom & Sons for the Rev. Mother-General of Nazareth House).—Consent.

*Hammersmith.*—Re-erection of buildings at Ice Well Wharf, Wellington-road, Hammersmith (Messrs. Thomas & Thomas for Messrs. Togni, Ltd.).—Consent.

*Lewisham.*—Erection of a building on the eastern side of Havelock-street, Forest-hill (Mr. J. M. Kennard for Mr. C. Pearce).—Consent.

*Wandsworth.*—Erection of a building upon a site on the western side of Brewhouse-lane, Putney, immediately southward of the River Thames, with a forecourt boundary at less than the prescribed distance from the centre of the roadway of the street (Mr. G. A. Lansdown for the National Steam Car Company, Ltd.).—Consent.

*Width of Way, Line of Frontage, Space at Rear and Projections.*

*Deptford.*—Erection at the Deptford Public Library of a projecting portico next to Lewisham High-road, and a projecting plinth next to Rokeby-road, Lewisham, and an irregular open space about such building (Sir A. Brumwell Thomas for the Deptford Metropolitan Borough Council).—Consent.

*Lines of Frontage and Construction.*

*Clapham.*—Addition of a temporary character at the rear of No. 125A, Lavender-hill, Battersea, abutting upon Stormont-road (Mr. W. J. Middleton for Mr. Davies).—Consent.

*Hackney, North.*—Retention of a showcase in front of No. 189, Dalston-lane, Hackney (Mr. T. Muddiman).—Consent.

*Islington, South.*—Wooden bookstall in front of the Angel Tube Railway-station, City-road, Islington (Messrs. Willing & Co., Ltd.).—Consent.

*Lewisham.*—Temporary wood and glass addition to a greenhouse at No. 347, High-street, Lewisham (Mr. H. J. Jones).—Consent.

*Strand.*—Erection of an iron and glass shelter at the entrance to Long's Hotel, Clifford-street, New Bond-street (Mr. E. K. Purchase).—Consent.

*Width of Way, Line of Frontage, and Construction.*

*Bow and Bromley.*—Retention of two temporary buildings at No. 415, Old Ford-road, Bow (Messrs. Gregg & Detman).—Consent.

*Space at Rear and Working-Class Dwellings.*

*Walworth.*—Blocks of intended dwelling-houses to be erected upon a site abutting upon Rodney-road, Wadding-street, Content-street, and Larcom-street, Walworth (Mr. V. Wilkins for the Governors of the Peabody Donation Fund).—Consent.

*Space at Rear and Alteration of Building.*

*Kensington, North.*—Addition at the rear of No. 40, Kensington Park-gardens (Messrs. Traies & Son for Mr. F. C. Rimington).—Consent.

*Alteration of Buildings.*

*Kensington, South.*—Addition at No. 29, St. Mary Abbott's-terrace, Kensington-road, Kensington (Mr. C. G. Keogh).—Consent.

*Paddington, South.*—Additional story at No. 63, Porchester-terrace, Bayswater (Messrs. A. Waller & Co., Ltd.).—Consent.

*Westminster.*—Flue for trade purposes at the premises of Bipsine (1910), Ltd., Nos. 99 to 105, Horseferry-road, Westminster (Bipsine (1910), Ltd.).—Consent.

*Westminster.*—Use of an existing party wall on the western side of a proposed new building at the corner of Millbank and Dean Stanley-street, Westminster (Messrs. Gordon & Gunton for the British American Tobacco Company, Ltd.).—Consent.

*Deviation from Certified Plans and Projections.*

*St. George, Hanover-square.*—Erection of a building at No. 56, St. James's-street, and the erection of an oriel-window in front of such building, so far as relates to a rearrangement of the fifth floor and roof plan (Mr. W. Flockhart for Mr. Lesser Lesser).—Consent.

*Lewisham.*—Formation or laying-out of a new street for carriage traffic to lead from Devonshire-road to Ewelme-road, Lewisham (Mr. G. A Lansdown for Messrs. W. & J. Pearce).—Consent.

*Buildings for the Supply of Electricity.*

*Norwood.*—Two-story addition to be used as a store, a one-story lavatory addition, and an external steel and concrete gangway at the premises of the South London Electric Supply Corporation, Ltd., Bengeworth-road, Loughborough Junction (Messrs. F. & H. F. Higgs).—Consent.

*Southwark, West.*—Erection of an iron building at the Bankside generating-station, Bankside, Southwark (Mr. F. Bailey for the City of London Electric Lighting Company, Ltd.).—Consent.

*Cubical Extent.*

*Bow and Bromley.*—Additional cubical extent at the premises of Spratt's Patent, Ltd., Fawe-street, Poplar (Messrs. Max Clarke & Garbutt for Spratt's Patent, Ltd.).—Consent.

*City of London.*—Additional cubical extent in respect of an additional story, additions at the second and third stories, and alterations at the premises of the *Daily Chronicle* Newspaper Company, Hanging Sword-alley and Whitefriars-street, City (Messrs. A. Vigor, Ltd.).—Consent.

*City of London.*—Additional cubical extent in respect of Carmelite House, on the southern side of Tallis-street, City, abutting also upon the western side of Carmelite-street, so far as relates to (i.) openings in a division wall on the fourth floor, (ii.) the erection of an office addition on the fourth floor, and (iii.) the erection of a covered way between the western "Readers" room on the fifth floor and the proposed staircase in the division westwards (Mr. H. O. Ellis).—Consent.

*Uniting of Buildings.*

*City of London.*—Uniting of Nos. 9 and 11, Bow-churchyard, City, by means of openings at the basement and ground-floor levels (Mr. F. White for Messrs. Sutton, Bye, & Co.).—Consent.

*City of London.*—Uniting of Nos. 26 and 27 with Nos. 28 and 29, Hamsell-street, City (Mr. A. A. Brand for Messrs. Harrison, Smith, & Co.).—Consent.

*City of London.*—Uniting of Nos. 24 and 26, Cornhill with No. 2, Change-alley, City (Messrs. T. Rider & Sons for the directors of the Commercial Union Assurance Company, Ltd.).—Consent.

*City of London.*—Use of doors of special construction in lieu of iron doors to openings in a division wall at No. 15, Aldersgate-street, City (Fireproof Doors, Ltd., for Mr. H. Knight).—Consent.

*Fulham.*—Uniting of Nos. 725 and 727 with Nos. 729 and 731, Fulham-road, Fulham (Mr. H. J. Colebrook for the London Real Estate Investment Company, Ltd.).—Consent.

*Hammersmith.*—Use of double armoured doors in lieu of double iron doors to openings at the ground, first, and second floor levels at the premises of Messrs. Barker & Co., Ltd., Olaf-street, Latimer-road, Hammersmith (Messrs. Mather & Platt, Ltd.).—Consent.

*Limehouse.*—Erection of an addition at the premises of Messrs. W. G. Clarke & Sons, Argyle Wharf, Thomas-street, Limehouse (Milner's Safe Company, Ltd.).—Consent.

*Marylebone, East.*—Alterations and additions at the premises of Messrs. Bourne & Hollingsworth Nos. 116 to 128 (even numbers only), inclusive, Oxford-street (Mr. John Slater for Messrs. Bourne & Hollingsworth).—Consent.

*Mile End.*—Uniting of Nos. 460 and 462, Mile End-road, Mile End (Messrs. C. C. & T. Moore).—Consent.

*St. George, Hanover-square.*—Formation of openings, exceeding the statutory size and fitted with double rolling shutters, in the party wall at the ground and entresol floors between Nos. 165, 166, 167, and 168, New Bond-street (Messrs. W. Newton Dunn & Son for Messrs. Asprey & Co.).—Consent.

*Wandsworth.*—Uniting of Nos. 174 and 176, Streatham High-road, Streatham (Mr. A. E. Chasemore for the County of London Electric Supply Company, Ltd.).—Consent.

*Wandsworth.*—For the uniting of Nos. 250 and 252, Streatham High-road, Wandsworth (Mr. F. L. Poole for Messrs. Glyn, Jones, & Co.).—Consent.

### PAINTING MATERIALS.

Two lectures on "Painting Materials" are to be given by Mr. Angus R. Walbrook at the Regent-street Polytechnic on Wednesdays, February 5 and 12. Mr. Walbrook is a director of Messrs. Lewis Berger & Sons, Ltd., who are large manufacturers of paints. In this connexion we may mention that in "Notes on the Properties and Ingredients of Commercial Paints," published in 1910 by the Science Standing Committee of the Royal Institute of British Architects (page 18, seventh and following lines), it is stated that "the data given will, it is hoped, serve to draw forth some valuable comments and criticisms from those interested in paint manufacture, without whose co-operation the practical outcome of any standard specification must be small."

## PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDARE.—Conversion of training school into workhouse (9,778*l.*); Messrs. J. Morgan & Sons, builders, Pendarren-street, Aberdare.

Aberdeen.—The following plans have been passed:—Two houses at Craigshaw and Nigg for Messrs. Cameron & Walker; alterations and additions to premises, Princes-street, for Mr. G. Bothwell; alterations to premises, Albert Quay, for Messrs. Richard Irvine & Sons, fish merchants.

Accrington.—Fire-station; Mr. W. J. Newton, Engineer, Town Hall, Accrington.

Alton.—Picture house, Deadwater; Mr. F. Boulton, Garrison Theatre, Alton.

Altrincham. — Conveniences, Kingsway (500*l.*); Mr. H. E. Brown, Surveyor, Urban District Council Offices, Altrincham. Picture theatre for the Altrincham Picture Theatre Company, Ltd.

Andover.—Post-office; Messrs. Ellen & Son, architects, Andover; Messrs. Grace & Son, builders, Clatford, Andover.

Arbroath.—Proposed swimming-bath (7,000*l.*) for the Arbroath School Board.

Ashton-in-Makerfield.—Proposed alterations to Parish Church (1,500*l.*), for the Vicar.

Ashton-under-Lyne.—Sunday-schools (2,000*l.*); Trustees, Primitive Methodist Church, Foundry-street.

Audley (Staffs).—Sunday-school (2,500*l.*); Primitive Methodist Trustees, Audley.

* See also our list of Competitions, Contracts, etc., on another page.

Balby-with-Hexthorpe. — House, etc., at sewage works; Mr. G. Gledhill, Surveyor, Urban District Council Offices, Balby.

Barrow-in-Furness. — Proposed housing scheme (60,000*l.*); also Carnegie Library (12,000*l.*); Mr. Arthur Race, Engineer, Town Hall, Barrow.

Batley.—Proposed rebuilding of Anchor Mill, Bradford-road, for Messrs. John Rhodes & Sons, Ltd., flock manufacturers; extensions to factory, Bradford-road, Batley Carr, for Mr. Henry Burrows, rag merchant.

Berwick.—Additions at workhouse; Messrs. Gray & Boyd, architects, 2, Ivy-place, Berwick.

Birkenhead. — Conveniences and shelters (425*l.*); Messrs. Davies & Gaskell, builders, Hamilton-lane, Birkenhead.

Blackpool. — School: Trustees, Wesleyan Church, Adelaide-street, Blackpool.

Bolton. — Buildings (5,000*l.*); Secretary, Schools for the Blind, Bolton. Conveniences and shelters, Great Lever Park: Mr. E. Ll. Morgan, Engineer, Town Hall, Bolton.

Bournemouth.—Residence, Canford Cliffs: Messrs. Miles & Son, architects, Observer-chambers, Bourenmouth; Mr. W. E. Jones, builder, Seamoor-road, Bournemouth. Proposed shelter or concert-room, Boscombe Pier: Mr. F. W. Lacey, Surveyor, Town Hall, Bournemouth.

Bradford.—Proposed school for the Trustees, Southend Wesleyan Mission Hall.

Braintree.—Additions to swimming-baths (420*l.*); Messrs. Letch & Bowtell, builders, High-street, Braintree.

Brandon.—Hospital: Mr. George G. Donkin, Surveyor, Urban District Council Offices, Brandon.

Bristol.—Church, Temple Cloud: Trustees of the late Miss Catherine Rees-Mogg.

Cambuslang. — School, Hamilton-road (16,000*l.*): Mr. J. Fairweather, architect, 136, Wellington-street, Glasgow.

Cardiff.—Baths on Canton Market and Severn-street sites: Mr. W. Harpur, Surveyor, Town Hall, Cardiff.

Carrie Arran.—Mansion for Misses Coates (4,000*l.*); Messrs. Fryers & Penman, architects, Bath-street, Largs.

Cartmel.—Proposed extensions to Parish Hall for the Vicar, Parish Church, Cartmel.

Chelmsford.—Refreshment-rooms at railway-station, corner of Park-road and Duke-street: Mr. Henry Jones, Engineer, Great Eastern Railway Company, Liverpool-street, E.C.

Chorleywood. — School (2,448*l.*); Messrs. George Darvell & Sons, builders, Steam Joinery Works, Chorleywood.

Clown (Derbyshire).—Church; Mr. P. H. Currey, architect, Market-place, Derby.

Cottingham.—Plans have been passed for a picture palace at Station Mills, for Messrs. Paley & Donkin, Ltd., and for the erection of the "Cosy Coliseum," King-street, for Messrs. Waddington & Gledstone.

Dartmouth.—Hospital: Mr. Thomas W. Joyce, surveyor, Victoria-road, Dartmouth.

Dukinfield.—Picture palace for the Dukinfield Picture Palace Company, Ltd.

Dunfermline.—Workshops and showrooms, Woodhead-street, for Messrs. Normand & Thomson, brass founders, 31-33, Woodhead-street, Dunfermline.

Dunston Hill.—School (5,000*l.*): Mr. W. Rushworth, Architect, Shire Hall, Durham.

Durham.—Plans have been passed for a picture hall in North-road for the Durham Cinema Company.

Earby.—Billiard hall (1,800*l.*); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

Easington.—Station buildings and goods warehouse: Messrs. Stephen Fenwick & Co., builders, Northumberland-road, Newcastle.

Edinburgh.—Alterations to 53, Princes-street for the Royal Hotel (Edinburgh) Company, Ltd. Picture house, Princes-street (30,000*l.*), for the Provincial Cinematograph Theatres, Ltd.; Messrs. Atkinson & Alexander, London, and Mr. R. M. Cameron, 53, Great King-street, Edinburgh, joint architects.

Essex.—Houses, etc., Nazeing (600*l.*); also sanatorium (fifty patients), Sandon; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Falkirk.—Sanatorium (5,000*l.*); Mr. David Ronald, Engineer, Town Hall, Falkirk.

Fletton (Peterborough). — Additions at factory for Messrs. J. Farrow & Co., Ltd., mustard and canned goods manufacturers.

Forest of Dean.—Housing scheme (250 houses) for the Connop Colliery Company, Connop, and the Princess Royal Colliery Company, Bream.

Freckleton (Preston).—Extensions to weaving shed for Messrs. J. Bibby & Sons, Ltd., cotton manufacturers.

Gainsborough. — Open-air swimming-bath (609*l.*); Mr. J. W. Burrell, builder, 66, Marlborough-street, Gainsborough.

Glasgow.—Shelter, Maryhill Park (433*l.*); Messrs. R. Murdoch & Son, builders, 91, Maxwell-road, Glasgow.—Tramway depôt, Govan (18,000*l.*); Mr. John Ferguson, Engineer, Tramway Offices, Redfield-street, Glasgow.

Glenboig.—School for the Monkland School Board.

Gloucester.—Alterations and additions to school, Hetherley-road; Mr. P. B. Cooke, Education Offices, Gloucester.

Greenock.—Cinema theatre (3,000*l.*) and houses, Smithston (4,000*l.*); Messrs. Stewart, Tough, & Alexander, architects, 2, Hamilton-street, Greenock.

Greenside (Durham). — Church; Mr. T. Greenshaw, New Bridge-street, Newcastle.

Halifax. — Proposed school; Vicar, St. Michael's Church.

Haltwhistle.—Drill hall; Messrs. Graham & Hill, architects, Eldon-square, Newcastle.

Harrogate.—House, shelter, etc., Harlow Moor (1,200*l.*); Mr. F. Bagshaw, Engineer, Town Hall, Harrogate.

Harrow.—Shop, Pinner-road, for International Stores, Ltd., 3 and 5, Church-street, Kingston, Surrey.

Harwell.—Four houses (1,000*l.*); Mr. J. W. Harris, Surveyor, Rural District Council Offices, Wantage.

Haslemere (Surrey).—Reservoir, Black Down, Largashall (2,285*l.*); Mr. C. Ball, builder, Letchworth, Herts.

Hawick (N.B.).—The following plans have been passed:—Extension of premises for Messrs. Lyle & Scott, Ltd., hosiery manufacturers; alterations to offices for Messrs. James Henderson & Co., hosiery manufacturers.

Heckmondwike. — New school; Trustees, Adult School, Albion-street, Heckmondwike.

Hernant.—School (3,000*l.*); Mr. G. A. Hutchins, Surveyor, County Offices, Welshpool.

Herts.—Improvements and alterations at undenominational school, Baldock (540*l.*); schools, King's Langley (1,466*l.*), and West Hyde, Rickmansworth (2,814*l.*); Mr. A. R. Hallidie, County Education Offices, Hertford.

Houghton-le-Spring (Co. Durham).—Picture hall and rifle-range; Messrs. Wright & Chapman, architects, 39, Grainger-street, Newcastle.

Leigh (Lancs).—Seventy houses; Mr. T. Hunter, Surveyor, Town Hall, Leigh.

Lichfield.—Offices at workhouse; Mr. R. J. Barnes, architect, 39, Bore-street, Lichfield.

Lincoln.—Extensions to electricity works; Mr. Stanley Clegg, Electrical Engineer, Town Hall, Lincoln.

Litherland.—Proposed new church; Vicar, St. Mark's Mission Church, Litherland.

Llanelly.—Additions at workhouse infirmary; Mr. D. C. Edwards, Clerk, Guardians' Offices, Llanelly.

Longbenton.—One hundred and fifty houses, Benton-square, for the Wallsend and Hebburn Coal Company, Ltd., Exchange-buildings, Newcastle-on-Tyne.

Longford (Ireland).—Additions at St. Mel's College (4,000*l.*); Mr. P. Kelly, builder, Earl-street, Longford.

Macclesfield. — Post-office, Denby-street: H.M. Office of Works, Storey's-gate, Westminster, S.W.

Margate.—Alterations to No. 21, High-street for Messrs. Robert Rapsom & Son, tailors and hosiers, 19, High-street, Margate.

Merthyr.—Remodelling school at Pant (212 extra places); Architect, Education Offices, Merthyr.

Middlesbrough.—Works for Messrs. W. Gray & Co., Ltd., shipbuilders, The Docks, West Hartlepool.

Monmouthshire. — School, Blackwood (8,174*l.*); alterations to school, Marshfield (700*l.*); and school, Pentwyn (7,542*l.*); Mr. T. G. James, County Education Offices, Newport.

Moseley.—Rebuilding tower of St. Mary's Church for the Vicar.

Motherwell (N.B.).—Houses, Douglas-street; Mr. J. Hall Nicol, Park-street, Motherwell. Extensions to bakery for the Dalziel Co-operative Society, Ltd.

Nanspusker (Cornwall).—Pump-house (490*l.*); Mr. N. J. Jorry, builder, Connerton-street, Hale.

Neath (Glam.).—Bridge over Tennant Canal at Burrow's Lodge, Britonferry-road (712*l.*); Mr. J. G. H. Gorwett, builder, Gelli Bwlch Farm, Skewen.

Newbridge (Mon.).—Alterations and additions to police-station (678*l.*); Mr. C. F. Morgan, builder, Newbridge.

Newcastle-on-Tyne.—Extensions to premises (3,000*l.*); Mr. E. W. F. Liddle, architect, Eldon-square, Newcastle. Mortuary at old toll house, Swing Bridge (746*l.*); Mr. Johnstone Wallace, builder, care of the Clerk, Town Hall, Newcastle. Baths at Benwell and Walker (20,000*l.*); Mr. W. J. Steele, City Engineer, Town Hall, Newcastle.

New Shoreham.—Proposed isolation hospital: Mr. G. Baguley, Clerk, New Shoreham, Port Sanitary Authority, Shoreham.

Ninfield. — Alterations and additions to school; Mr. E. Young, East Sussex Education Offices, Lewes.

Nottingham. — Extensions of depôt at Bulwell; Mr. Arthur Bale, City Architect, Town Hall, Nottingham. Proposed rebuilding of King's Theatre, for the proprietors.

Nuneaton.—Additions to cold storage, etc., Queen's-road, for Messrs. Coleman & Son.

Peterhead.—Plans have been passed for houses in Landale-road (1,200*l.*), for Messrs. J. B. Dickie & Co.; and for stores, between Ugie-street and Wilson-street (1,500*l.*), for Mr. James Sutherland.

Peton Lane Ends (Co. Durham).—School (600*l.*); Mr. W. Rushworth, Architect, Shire Hall, Durham.

Ponteland (Newcastle). — Cottage homes (1,718*l.*); Messrs. Henderson & Son, builders, Ponteland.

Poole.—Convenience, Sandbanks (445*l.*); Mr. E. P. Pearcy, builder, Parkstone, Dorset. Wine store, Ashley-road, for Messrs. G. Lane, Ltd.

Ramsbottom.—Proposed institute; Vicar, St. Paul's Church, Ramsbottom.

Rawcliffe.—Alterations at school; Mr. J. Vickers Edwards, Architect, County Hall, Wood-street, Wakefield.

Reddish.—Extension to works for Messrs. Craven Brothers, engineers.

Rutherglen.—Additions to works, Ballochmill-road, Eastfield, for Messrs. G. & A. Gunn, Ltd.

St. Albans. — Parish hall; Vicar, St. Saviour's Church, St. Albans. Proposed fire-station (600*l.*); Mr. G. Ford, Surveyor, Town Hall, St. Albans.

Scarborough.—Shelters, etc. (2,530*l.*); Mr. Henry W. Smith, Engineer, Town Hall, Scarborough.

Selby.—Proposed hall; Rev. A. B. Goulden, Vicar, St. James' Church, Selby.

Sevenoaks. — Memorial swimming-baths (3,000*l.*); Mr. S. Towlson, Engineer, Urban District Council Offices, Sevenoaks.

Southampton.—Enlargement of Highfield Church (5,000*l.*), for the Trustees.

Stafford.—Extensions to St. Mary's Church (3,000*l.*); Mr. A. B. Jackson, architect, 3, New-square, Lincoln's Inn, W.C.

Strood (near Rochester).—Extensions to foundry, Gun-lane, for Mr. William Cobbett Barker, brass founder; rebuilding of No. 9, High-street, for Messrs. Leney & Son, brewers.

Swansea.—Proposed new municipal buildings; Mr. George Bell, Surveyor, Town Hall, Swansea. Buildings, Hafod, for the British Petroleum Company, Ltd., 22, Fenchurch-street E.C.

Teddington. — Destructor buildings and sewage disposal works; Messrs. W. Cunliffe & Sons, builders, Birmingham.

Thomastown.—School (10,000*l.*); Mr. J. Bain, County Offices, Newport, Mon.

Thornhill.—Asylum; Messrs. Everard, Son, & Pick, 6, Millstone-lane, Leicester.

Upholland.—Extensions and alterations at the Church Schools (1,400*l.*), for the Trustees.

Uttoxeter.—Alterations to Town Hall (600*l.*); Mr. R. W. Marshall, Engineer, Urban District Council Offices, Uttoxeter.

Warminster.—Alterations and additions to Nos. 54-56, Market-place, for Messrs. King & Tanswell (497*l.*); Mr. A. F. Long, architect, 53, Market-place, Warminster; Messrs. E. Linzey & Son, builders, The Halve, Trowbridge.

Wakefield.—Alterations and additions to Grove Ironworks, off Kirkgate, for Messrs. J. Rhodes & Son, Ltd., manufacturers of presses, dies, etc.

Waterford.—Proposed 200 houses (25,000*l.*); Mr. Michael Fleming, Surveyor, Town Hall, The Mall.

Westhoughton.—Weaving shed for Messrs. Taylor & Hartley, Ltd., cotton goods manufacturers, Perseverance Mill, Bolton-road, Westhoughton.

Weymouth.—Refuse destructor (2,500*l.*); Messrs. Hughes & Stirling, builders, 6, Stanley-street, Bootle, Liverpool.

Wheatley Hill (Co. Durham).—Additions to school (4,000*l.*); Messrs. Blackett & Son, builders, Darlington.

Wokingham.—Theatre, Broad-street; Mr. N. T. Salmon, architect, Shute End, Wokingham.

## FOREIGN AND COLONIAL.

### Building Materials for New Parliament Buildings, Wellington, New Zealand.

With reference to the notice on p. 6 of the *Board of Trade Journal* of January 2, relative to the proposed New Parliament Buildings at Wellington, it is understood that tenders for the erection of the buildings will shortly be invited, and three months allowed for their receipt. It is not likely, therefore, that construction will be begun until April next.

## TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

### Allen & Norris *v.* London County Council.

THE Tribunal of Appeal under the London Building Act sat on January 17 at the Surveyors' Institution to hear an appeal by Messrs. William Gilbert Allen & Henry George Norris against the certificate of the Superintending Architect of Metropolitan Buildings defining the general line of buildings on the western side of Fulham Palace-road, between Lanarch-road and Brandenburgh-road. Mr. T. Lemon appeared for the appellants, and Mr. F. Daldy for the London County Council.

Mr. Lemon, in opening the case, explained that the appellants were developing a large estate in Fulham. The first point which arose was, whether there was any general line of building at all in the area affected; but if there was, the point was whether the area fixed by the Superintending Architect from Lanarch-road to Brandenburgh-road was the right one over which to draw the line. In a previous case before the Tribunal, dealing with an adjoining section of the road, the Tribunal attributed great weight to the character of the buildings in the road, and he held that this was an important point to take into account. If they took the appellants' property from Lanarch-road up to the County Council school, it was to be shop property, whilst if they went beyond the appellants' property to Crabtree-lane, it was still shop property. If the Superintending Architect considered it right to go beyond Parfrey-street in defining the line, then what reason was there for not going right to the corner of Queen-street, Hammersmith? If they went to the Queen's-road, the line defined by the Superintending Architect was obviously incorrect. The property being built upon by the appellants was previously market gardens, and nothing had happened to bring into existence a general line of buildings except the buildings which had been erected by the appellants themselves.

In reply to Mr. A. H. Hudson (the Chairman), Mr. Lemon said he suggested that, taking into account the curve of the road, the front of the buildings on the area to the north of Lanarch-road should follow the contour of the Fulham Palace-road. He pressed that, because these buildings were the only buildings in existence between Lanarch-road and the County Council boundary. If they got beyond the boundary then they must take into account the buildings at the corner of Parfrey-street.

Mr Walter Atkinson, builder, who appeared as an interested party, said he had erected a good number of houses in the neighbourhood. He owned land beyond that of the appellants' property which had a frontage of 93 ft. to Fulham Palace-road and also a frontage to Cockling-street. If the line, as defined by the Superintending Architect was confirmed he would have to set back his building line 14 ft. 3 in. in the Fulham Palace-road, and with what he had to give up in the Locklingroad the line would take away nearly a quarter of his land.

Mr. H. G. Norris, one of the appellants, said that in seventeen years his firm had built about 2,000 houses in Fulham. From Silverton-road towards Hammersmith the character of the property was shop property.

The Chairman said the case might be shortened if he said the Tribunal thought with the buildings which had been erected in the road now they could fix a general line of building.

Witness said his suggestion was that if a general line of building was to be established by the present buildings it should be by a continuation of the line which the Tribunal itself suggested on the south side of Lanarch-road, in the previous case before them, running parallel with the centre of the road.

Mr. J. Slater (a member of the Tribunal): What that means is that you would never come nearer the centre of the road than 30 ft.

Witness said that was so, and it was never their intention to do so.

The Chairman said that was clearly fixing a building line and not finding the general line of buildings

Witness said he had no objection to the fixing of a general line providing that it was defined by the buildings they had themselves erected. He held that the County Council school building and lodge could not be taken into account because it was a building by consent. To set back shop property in the Fulham Palace-road 15 ft. meant that they might just as well throw their money into the gutter.

Witness in further evidence said the general line ought to be fixed between Lanarch-road and Parfrey-street, or, alternately, between Lanarch-road and Queen's-road, Hammersmith.

A question having arisen as to the difficulty of finding the centre of the road, witness pointed out that the Superintending Architect had, in the early negotiations, himself fixed the centre by drawing a green line, and he intimated that the appellants were prepared to accept that green line as fixing the centre of the road.

The Chairman pointed out that there was practically nothing between the parties except that the County Council wanted the appellants to give up some land for the public. If they took the green line, except that it cut at one small point against the frontage, it would, with a small easement to meet the appellants' views, meet the difficulties of both sides. It seemed preposterous for them to sit there over such a matter.

Mr. Daldy said the acceptance of the green line was coupled with conditions which the appellants did not accept. The County Council had taken the position they had, and he could not go beyond that.

After further discussion Mr. Daldy addressed the Tribunal, and submitted that the Superintending Architect had dealt with a right length of road. He pointed out that under Sec. 26 the County Council had not only the power, but it was their duty to get pieces of land given up for the public.

Mr. H. Millward, of the architect's department of the County Council, having given evidence in support of the certificate,

The Tribunal deferred giving their decision until they had privately considered the matter.

## WESTMINSTER CITY COUNCIL.

AT the sitting of the Westminster City Council on January 17 the following matters were dealt with:—

*Tar-Spraying.*—The tender of Messrs. H. V. Smith & Co., 20, Victoria-street, for tar-spraying macadam roads at 2d. per square yard, was accepted.

*Roadways and Trams and Buses.*—In reply to the London County Council, who had asked to be furnished with information regarding the effect of motor-omnibus traffic on the roads, it was reported by the Highways Committee that they were unable to say what effect motor-omnibus traffic alone had upon the roads of the City. They, however, found that motor traffic generally affected macadam roads prejudicially, and perhaps, to some slight extent, asphalt roads also, but it could not be said that, as a result of motor traffic in Westminster, there had been any increase in cost of maintaining wood-paved roads originally laid on present approved methods. The tramway track and margins being maintained by the County Council the area of roadway to be maintained by the road authority was reduced, but the use of the middle of the roadway by the trams tended to drive the greater portion of the general vehicular traffic on to the portions of the roadway maintained by the road authority, thus increasing the cost of maintaining that portion.

*Caxton Hall.*—The Special Committee on Caxton Hall reported having inspected the Hall, and had instructed the City Engineer to prepare a plan showing the various rooms in the building, and to report to them on the constructional condition of the building, its heating, lighting, and other apparatus, both internally and externally, and the need, if any, for further delay.

## LAW REPORTS.

OFFICIAL REFEREE'S COURT.
(Before Mr. MUIR MACKENZIE.)

### Architect and a Builder's Extras: Emery *v.* Wimlett.

THE hearing of this case was begun on January 14, it being an action for the recovery of 118*l.* 17s. 6d. alleged to be due upon a building contract. In continuation of our report of the case in our last issue,

On January 15 Mr. John Frederick Hollins, clerk to the plaintiff's solicitors, said that he had an interview with Mr. Knight, the defendant's architect, shortly after the abandonment by the plaintiff of the contract. Witness went to Mr. Knight with a view to their going through the extras and to see if they could not arrive at an amicable settlement, but nothing was done, and Mr. Knight said nothing about measuring the extras at all.

Mr. Moresby (cross-examining): Did not Mr. Knight say that the extras were farcical and that most of them were included in the contract?—No.

Mr. Moresby, opening the defendant's case, said that he relied on questions of law and fact. These two contracts, he remarked, were lump sum contracts, and, therefore, as a matter of law, if they were arbitrarily abandoned before completion, the plaintiff could not recover anything in the way of balance due under the contracts; under such conditions one could not even recover in a case of *quantum meruit*. His next point was that, quite apart from it being lump sum contracts, the fact that he abandoned the contract went in favour of the defendant. Having mentioned other points of the defence, Counsel said that this work ought to have been finished in time for the summer season at Stratford-upon-Avon, in 1911. Their estimate was that for eight weeks Mr. Wimlett had lost about 5*l.* a week by not having the restaurant open.

Mr. Moresby then called Mr. John Herbert Knight, an architect living and practising at Stratford-upon-Avon, who stated that in May, 1911, he was consulted by the defendant in respect of these building operations in Sheep-street and Water-street. The idea was that three cottages were to be converted into a restaurant at the corner. Witness, who stated that he prepared the necessary plans and specifications incorporated in the contracts, then gave detailed evidence at length and alleged that there had been delay on the plaintiff's part in going on with the work.

Mr. Knight, in cross-examination, denied that he was abitrary.

Mr. W. S. M. Knight: You appear to have cultivated the habit of arbitrariness. Are you not well known in Stratford as a man under whom it is difficult to work?—No, sir.

Have not a great many builders been unable to complete contracts under you?—Certainly not!

Is Mr. Emery the only builder who has not completed a contract under you?—Yes.

Are you sure?—Certainly.

The Referee said that he considered that the plaintiff was not entitled to any extras, but he thought it safer to allow him 7*l.* 10s. in respect thereof. His Honour thought that the plaintiff's abandonment of the contract not justifiable.

Judgment would be entered for defendant on claim, and he would be awarded 9*l.* on counterclaim.

DIVISIONAL COURT.
(Before Justices RIDLEY and LUSH.)

### Euston-road Frontages: Appeal against Superintending Architect's Certificate: Clode and Others *v.* London County Council.

THIS case was heard on Wednesday, Thursday, and Friday of last week, upon an appeal against an order of the Tribunal of Appeal, in the matter of the London Building Act, 1894, on the certificate of the Superintending Architect, dated September 28, 1909, defining the general line of buildings on the north side of the Euston-road, between Hampstead-road and Osnaburgh-street. The appellants were Mr. William Leslie Brutton Clode, the Rev. Thomas Farmer Collins, and Mr. Merlin Arthur Clode, trustees under the will of the late Mr. Lewis James Leslie, and the respondents were the London County Council. The special buildings referred to were Nos. 378, 380, 382, and 384, Euston-road.

Mr. Astbury, K.C., Mr. Walter Ryde, K.C., and Dr. Herbert-Smith (instructed by Messrs. Dalston, Sons, & Elliman) were for the appellants; Mr. Danckwerts, K.C., and Mr. Daldy (instructed by the solicitors to the London County Council) for the respondents.

Mr. Astbury said this was an appeal under the London Building Act of 1894, and was brought by way of a special case stated by the Tribunal of Appeal. It related to the building line in the Euston-road, and had been the subject of much legislation. This Euston-road was made under a series of old statutes in the reigns of the Georges, and there was no doubt that under the earlier Acts there was an absolute prohibition against any building being put up within 50 ft. of the highway. *Primâ facie* that fixed the building line at 50 ft. away, and from the highway on either side, and there was no doubt that along the Euston-road a large number of buildings were put up with their frontage 50 ft. from the highway, and with forecourts in front. This legislation was constantly being altered, and in the course of time there came into existence an authority which had the power to consent to building in front of the old building line. In later statutes the Acts defined the authority which was entitled to limit, or define, or decide what was in fact the building line. At the time with which they were concerned the architect of the Metropolitan Board of Works, Mr. Vulliamy, was the authority. He (Counsel)

thought it was obvious that what was meant was that he was to define or to decide what was in fact the building line along this particular street. *Primâ facie* he would have to take into consideration where the line of buildings was, because that decided the building line, and this had been laid down by the House of Lords. When the reference to the architect was made to define the building line it did not mean that he was to take upon himself to decide what would be the best way of laying out the street, but, having regard to the physical facts of the street, he had to consider what was the line which the buildings themselves had created and made.

This Euston-road, made under the early statutes of George II., and which then had this absolute prohibition, at a later date came under the jurisdiction of the Metropolitan Board of Works, and he (Counsel) admitted that in the year 1867 the authority under the statute entitled to define or decide what was in fact the building line was the Architect of the Metropolitan Board of Works. For years and years prior to this time the Metropolitan Board of Works, or their predecessors, had continuously given permission to persons to build upon the forecourts in the Euston-road, and that space had become entirely filled up.

Mr. Justice Ridley: Did not the Metropolitan Railway build there?

Mr. Astbury: Yes. In this Euston-road, instead of the buildings standing back 50 ft. from the highway they were built substantially right up to the road itself. It had become a hopeless muddle, and whether it would ever be set straight by legislation he (Counsel) did not know. The particular place they were dealing with now was situate between Osnaburgh-street and the Hampstead-road. In 1867, along this stretch, the houses on both sides of the street came up to the road. A gentleman of the name of Vulliamy was then the Architect of the Metropolitan Board of Works, and the matter was then put before him to deal with the building line. He did not make a certificate that the building line was in fact the houses built there, but he recommended to the Metropolitan Board of Works that that should be the building line. The Metropolitan Board of Works then appointed a Committee to discuss the matter, and they agreed with the Architect that that was the proper place for the building line in this street, and the Metropolitan Board of Works met and passed a resolution to this effect. As far as all material and equitable considerations were concerned, the Metropolitan Board of Works agreed with the Architect, and they directed their Surveyor to give notice to everybody, including the St. Pancras Vestry, that this was their resolution.

In consequence of this (said Counsel), subsequently to 1867, everybody built up to the line on the strength of that resolution. They did not ask for separate permissions, but built out on what had formerly been forecourts, because the Metropolitan Board of Works had fixed the building line there.

In reply to a question from the Court as to how this affected the road as a whole, Mr. Astbury said the Euston-road was such a hybrid entity that he did not dare to deal with anything not within his stretch—that portion affected in this case. There had been a recent case decided in the House of Lords which seemed to have inspired the London County Council with the opinion that they could upset the result of all the past legislation; this was the case of Fleming, 1911, "Appeal Cases," page 1. But that was a case which dealt with certain specific consents of the Metropolitan Board of Works given under specific conditions, in connexion with some of these forecourts in another part of the Euston-road, in which the statute, which still held, said no buildings were to be put up without consent. In that matter they were not only concerned with the architectural appearance; they were concerned with the questions of light and air and health. There was a question of whether the Metropolitan Board of Works gave consent to build up to the height of the houses at the back of these forecourts, and the Court of Appeal decided that these separate and individual consents could not alter the building line. The London County Council should have had the building line determined on the other side of this street before that decision in the House of Lords, against which there was no appeal. They now had had an opportunity in this particular case, and had succeeded up to now in saying that that decision had enabled them to go back upon the general resolution of the Metropolitan Board of Works, and to say that these houses were not houses entitled to be taken into consideration by the present architect in saying what was the present building line, and the Court of Appeal had come to the conclusion that they were bound to say that the building line was 50 ft. behind the road.

Before this decision in the House of Lords it was decided, on the opposite of the street, that the proper building line was to be the front of the existing buildings, and this was not appealed against. So now the building line of one side of the street was to be up to the highway, and on the other side 50 ft. behind.

Counsel here put in the plans showing that the effect of the decisions would be that the building line would vary in some instances from the highway through the middle of existing buildings to a 50 ft. frontage.

Mr. Justice Lush: The Tribunal of Appeal has power to fix different building lines in the same street?

Mr. Astbury: In the olden days they could build their houses like steps if they so chose, but now if they had a street with houses going continuously for a mile that was *primâ facie* the building line. The building line was not a fancy one, but was *primâ facie* fixed by the buildings which were on the place, because the architect was not sent there as a person to say where he would make a line if he was going to make a new street, but as a man with eyes in his head to see where the buildings were, and to fix the line accordingly. If the decision of the Tribunal was right they would have one side of the street set back 50 ft. from the front and the other side built up to the highway. The judgment of the Tribunal would affect seriously the owners of the property. The buildings partially erected may be stopped, they may be prevented re-erecting those buildings they had pulled down, and those buildings which may be destroyed by fire could not be rebuilt. If they wanted an alteration in the buildings the London County Council had the power to stop it.

Mr. Danckwerts said they could keep the buildings there if they got the consent of the London County Council.

Mr. Astbury: Which the London County Council are apparently not in a mood to give. Counsel, continuing, said many cases could be instanced of persons who had bought and sold property in Euston-road, relying upon the resolutions of the Metropolitan Board of Works.

Mr. Justice Lush: May you ignore the building line by building back of the 50-ft. frontage?

Mr. Danckwerts: Yes. They must not get in front.

Mr. Astbury said the sole question their Lordships were concerned with was as to the building line. If that line was decided to be 50 ft. behind where it was now, and where it should be, the consequences would be exceedingly serious to his clients. Under the Act of George II. it was forbidden to build beyond the 50 ft. line. If any building was put upon that 50 ft. frontage on new foundations it was to be treated as a common nuisance. This was a temporary Act, and lasted only for a temporary period. The Act 48 of George III. extended the Act of George II. for twenty-one years. That Act lapsed, and by 7 George IV. a new provision was made that any building erected after the date of that Act on a new foundation in the area under consideration should be deemed a common nuisance. There was a hiatus between the Acts of George III. and George IV.

Mr. Danckwerts said the Act of George IV. was not repealed until 1852. The Act of 1855 did not affect the prohibition of the Act of George IV.

Mr. Astbury then read the judgment of the Tribunal.

The President, in his judgment, said there were five appeals under sect. 25 of the London Building Act, 1894, against the certificate of the Superintending Architect made on September 30, 1909, under sects. 22 and 29 of the Act, defining the general line of the buildings on the northern side of Euston-road, between Hampstead-road on the east and Osnaburgh-street on the west, a distance of about 380 yds., exclusive of spaces occupied by side streets. The Tribunal viewed the premises, and from what they saw they found that there was now, and had been in existence for many years, a more or less continuous line of buildings, situated, most of them, about 48 ft. to 50 ft. from the pavement, and some at a slightly greater distance. There was also at the present time a row of buildings of considerable age abutting on the inner edge of the pavement. These were regular in frontage but irregular in height, and consisted of one, two, three, and four story buildings. The buildings at the back were many of them separated from the front buildings by yards and other vacant spaces intervening. In other cases the front buildings had the appearance of having been built out from the back buildings, of which they now form part, and, in some few cases, the front and back buildings could not be distinguished one from the other. It was proved before the Tribunal that some of the buildings brought out were internally on the ground floor so completely joined to the back buildings that they did not on that floor show any dividing line. If the duty of the Tribunal consisted in merely defining the general line of building between Hampstead-road and Osnaburgh-street, taking into consideration the whole of the buildings which now existed, they could come to no other decision than that the general line of buildings was the inner edge of the pavement. But they must, in defining the general line of buildings in any street or part of a street, place, or row of houses, in which the same were situate treat as non-existent:—(1) Buildings lawfully there, but erected by consent of the proper authority (in this case the Metropolitan Board of Works or the London County Council), which would have been unlawfully there unless they had been erected by such consent; (2) buildings not lawfully there—for example, buildings for which consent was necessary, but for which no consent had been obtained—and buildings erected in defiance of the law and to the erection of which no authority had power to consent.

It was argued before the Tribunal by the respondents that, with the exception of the "Adam and Eve" public-house, adjoining the Hampstead-road, practically all the buildings brought out to the inner edge of the pavement fell into one or other of those classes, and must be disregarded. It therefore became necessary to consider the history of the street, and the buildings in it. The buildings in question abutted upon a part of a street laid out in about the year 1756, in pursuance of the Act 29 George II., c. 88. Under this Act no building could be erected within 50 ft. of the street on any new foundations. There was no power in any authority to consent to buildings so forbidden by the Act, and by this Act, and by the operation of 48 George III., c. 100, passed in the year 1808, and 7 George IV., c. 142, s. 140, passed in the year 1826, any building erected within 50 ft. of this street was a common nuisance if on new foundations.

By sect. 143 of the Metropolis Management Act, 1855, no building was without the consent in writing of the Metropolitan Board of Works to be erected beyond the regular line of buildings in a street in which the same was situate in case the distance from the highway did not exceed 30 ft., or within 30 ft. of the highway where the distance from the line of buildings therefrom amounted to or exceeded 30 ft., and any building erected contrary to this enactment was liable to be demolished or set back by the local authority. This was the first date at which any building could be erected on new foundations within 50 ft. of the highway after 1756, but it must be observed that the Act of 1855 did not expressly repeal the Act of 1756. The Act of 1855 was followed by the Metropolis Management Amendment Act of 1862, sect. 75 of which repealed (subject to the proviso in sect. 108) sect. 140 of 7 George IV., c. 142, and sect. 143 of the Metropolis Management Act, 1855, and enacted that no building, structure, or erection should without the consent in writing of the Metropolitan Board of Works be erected beyond the general line of buildings in any street, place, or row of houses in case the distance of such line of buildings from the highway did not exceed 50 ft., or within 50 ft. of the highway where the distance of the line of buildings therefrom amounted to or exceeded 50 ft., such general line of buildings to be decided by the Superintending Architect to the Metropolitan Board of Works for the time being, and that in case any such building was erected without such consent it should be lawful for the local authority to make complaint before a justice of the peace. Although the London Building Act of 1894 repealed, subject to a proviso, sect. 75 of the Act of 1862, the provisions of the repealed section were in substance re-enacted, the London County Council being substituted for the Metropolitan Board of Works. It followed that buildings, except those erected on old foundations, within 50 ft. of the highway (which would include all buildings abutting on the pavement) were, if erected between the Act of 1756 and the Act of 1855, common nuisances. It followed also that buildings erected after the Act of 1855 in front of any then existing general line of buildings and within the prescribed distance must be there either by consent or unlawfully.

Dealing with the evidence, the Tribunal said it was proved that consent was applied for and granted in 1878 in respect of No. 292 to erect a building (on a space where at that time no building existed) extending from a building then existing about 25 ft. from the pavement up to the pavement. The plan attached to the application showed existing buildings abutting on the pavement on the east side as far as the Hampstead-road, and

on the west side a vacant piece of ground, which, it appeared from a map dated 1793, had been previously occupied by a building abutting on the pavement. It appeared from the same map that the space to which this application referred was in 1793 unbuilt upon, though completely surrounded by buildings, which on each side of it abutted on the street. It was proved that consent was in 1865 given to erect a building on the site of Nos. 314 and 316, houses being shown at about 50 ft. from the road extending for a distance of 240 ft. eastwards from Brook-street, now called Stanhope-street. In 1890 consent was refused in respect of Nos. 348 and 350 to erect two additional stories on a one-story building then existing and abutting on the pavement. The proposed additional stories were added in spite of the refusal of consent. In 1858 consent was refused in respect of No. 366 to erect a building of three stories extending to within 2 ft. of the pavement in place of an existing one-story building abutting on the pavement. These were also erected. In 1906 refusal was made to an application to build on a small, narrow yard abutting on Diana-place, but the building was carried out. Consent was refused in 1858 in respect of Nos. 400 and 400A to raise existing buildings abutting on the pavement, but the work was done.

After reviewing further evidence, the Tribunal found from the maps put in that no material number of the buildings abutting on the pavement were in existence in 1793, the date of the earlier map (Horwood's map of London). If these buildings were erected on new foundations between that date and the Act of 1855 they were common nuisances, and so remained. The Tribunal found that there was a general line of buildings in 1855 and afterwards, and that all the buildings abutting on the pavement were in front of such general line. It followed that such of the buildings under consideration as were erected after the Act of 1855 must be presumed to have been erected by consent, unless, again, they were erected on old foundations. There was no evidence that any of these buildings were on old foundations, except No. 318 and possibly Nos. 310 to 316. These buildings on old foundations were so few and occupied such a small frontage that they did not affect the general line of buildings, and could in that respect be disregarded. Substantially, therefore, all the buildings abutting on the pavement must be disregarded. There remained the buildings forming what Mr. Vulliamy called the "line of main frontage," and the Tribunal confirmed the certificate of the Superintending Architect in this respect. A general line of buildings did not profess to follow the front line of each house from which it was deduced, and there might, of course, be projections beyond such general line, for which provision was made in the London Building Act, 1894.

Counsel then read the special case, in which Mr. A. A. Hudson, the President of the Tribunal, stated that the trustees were in course of erecting a building on the site of Nos. 378, 380, 382, and 384, Euston-road. The Superintending Architect, at the request of the Council, defined the general line of buildings on the northern side of Euston-road, to which the trustees objected, and against which they appealed, contending that the general line of buildings in the part of the Euston-road dealt with by the certificate was the inner edge of the pavement. On November 12, 1867, a Committee of the Metropolitan Board of Works recommended certain lines of frontage, and that it be a condition that any buildings to be thereafter erected on the northern side of Euston-road between Osnaburgh-street and Hampstead-road be kept to an extreme general line from 10 to 11 ft. back from the outer edge of the kerb of the foot pavement, so as to preserve a uniform line. The Tribunal were of opinion that the plan and report were prepared, the recommendation was made, and the resolutions were passed in connexion with a proposal for fixing a new building line, and were not intended to be, and were not, a decision or anything in connexion with a decision as to the general line of buildings. The question for the Court now was whether their decision was right in law.

Mr. Astbury submitted that the Tribunal had admitted as evidence that which was not evidence. Having admitted this, they found that these houses were built on new foundations under the George IV. Act. Upon that admission of evidence, and the assumption of these facts, they then went wrong in law, and they excluded the whole line of houses which were not built under conditional consents at all. The Vulliamy business was this: he appeared to have thought that there was a building line 50 ft. back, but the proper building line should be 50 ft. in front. Mr. Vulliamy did not frame this in the form of a certificate.

Mr. Danckwerts: There was a line in existence then.

Mr. Astbury said the Metropolitan Board of Works, who had supreme control, approved of Mr. Vulliamy's idea.

Mr. Justice Lush: In specific cases specific consents were given?

Mr. Astbury: Yes; and conditionally.

Mr. Justice Ridley: Was not the case, London County Council against the Metropolitan Board of Works, about the same street?

Mr. Astbury: The same street, but another portion of it, and did not apply to the Vulliamy certificate at all. This street, he (Counsel) was told, was 3 or 4 miles long, and he had no doubt that, in the course of time, it would become a maze, because there were all sorts of building lines. On the south side the buildings were erected on the Vulliamy resolution, but the London County Council now said that, although they were "done" on the south side, they would get another 50 ft. on the north side.

Mr. Astbury, continuing, said he had one clear, strong point to which, he submitted, there was no answer. The operation of the resolution was not that consent had to be given to build up to the blue line in every case. It said that up to the blue line they did not require any consent in the future, and they might lawfully build up to the blue line without consent, and that made the blue line, when the houses were built, in fact the building line. Having cited a number of authorities, he asked the Court to say that the foundation of the judgment against him as it stood, in fact, were these two old maps, which were not evidence against him. He suggested that the London County Council were coming forward to say that a particular line of buildings in a street did not make the building line if they were a continuous line of buildings. He said that before they could get rid of the buildings which were, in fact, there, they had to prove either that they were unlawful structures when put up, and remained so, or that they were put up under qualified consents. They had not proved that the buildings along this section of the street were not put upon old foundations perfectly legally, because they had to rely on two old maps, which were not evidence against him.

Continuing, Counsel said the Act of George II. was a temporary Act, which was extended by 48 George III. The date of the first Act was 1756. If these maps (referred to in the judgment) were admitted as evidence, his client's houses were not up before 1856, and, therefore, his houses presumably would be a common nuisance. If put up prior to the Act 7 George IV., 1826, it depended upon the construction of a certain clause in the Act. The latest evidence was that of 1819, so that they had no proof that those houses were put up between 1819 and 1826. Suppose the houses were nuisances under 48 George III., that Act was repealed by 7 George IV., and that Act limited its common nuisances in these words:—No building, whatever shall be erected on any new foundations by any persons upon this particular road, contrary to the intent of this Act, and if they were so erected they should be common nuisances. This did not refer to any building erected before that Act. The Act making the earlier buildings common nuisances was repealed. This left a hiatus with regard to buildings to be put up under the new Act.

Mr. Justice Lush: Surely a house unlawfully put up does not become lawfully put up by reason of the repeal of the Act?

Mr. Astbury said the question was whether a house could remain under a repealed Act a nuisance for ever. He (Counsel) could not see how it could continue to be a nuisance when the Act was repealed. If all this street had been put up——

Mr. Justice Lush: The whole street might be a nuisance. Why do you say that these maps were not evidence?

Mr. Astbury: They were simply old maps of London, and nobody knew where they came from.

Mr. Danckwerts: Yes. They are the property of the London County Council.

Mr. Astbury: They may belong to the London County Council, but they may have bought them in an o'd bookshop. No evidence was led as to how these maps ever came into existence, and Mr. C. A. Russell, who then held his (Counsel's) brief, objected to their production. No evidence was led to make the maps themselves evidence. In conclusion, Counsel submitted that the judgment was wrong, and that the line should be put forward.

Mr. Danckwerts, for the respondents, said the real points in this case were perfectly simple. Every house built before 1852, and built within 50 ft. of the road, was a common nuisance. Then, undoubtedly, the building line was 50 ft. back from the pavement, as was pointed out by Mr. Vulliamy, and every house built in front of that 50 ft. line was illegally erected, unless it was erected by the consent of the Metropolitan Board of Works or the London County Council, and buildings with that consent could not be taken into consideration. This was the whole point of the case. This question had comparatively little to do with architecture. As to the south side of the street, he (Counsel) contradicted the statement that steps had been taken, and abandoned, to clear the south side of the street.

Mr. Astbury said proceedings were taken by the London County Council, and they were dismissed by the Tribunal.

Mr. Danckwerts said that was not correct. He wished to point out that this was not a question of architecture, except in a statutory way. The real and true importance of the matter was to have wide streets and wide air spaces—in other words, to have plenty of air and light. The word "street" had a double meaning—sometimes it meant the roadway only, and sometimes the street and houses. It was a matter of public importance in a town like London to have plenty of air and light, and this was what the London County Council had in view. The Superintending Architect and the surveyors were officers wholly independent of the London County Council, who could not control them in these matters. Mr. Vulliamy was in no sense a servant of the London County Council, and, as a matter of fact, these officers were very often hostile to the London County Council. Dealing with the question of the maps, Counsel said the so-called map of 1819 was in point of fact a much later one—the fourth edition. A part of this road had no existence before the Act 29 of George II. It was then a turnpike road, made and formed under that Act. The Act was to enable the trustees of the turnpike road to Highgate, and the trustees of the gate-house to Hampstead, to make a new road from the Great Northern-road at Islington to the Edgware-road at Paddington. One set of trustees took from Edgware-road to Tottenham Court, and the other from Tottenham Court to King's Cross. The Act of George II. was continued for twenty-one years. Sect. 1 of 7 George IV. repealed all the recited Acts, amongst them being Act 48 of George III., and sect. 140 provided that no building should be erected on new foundations within the 50 ft. limit in this particular road. Here the specific road was mentioned. In the former enactments other roads were subject to the Act. These houses must have been built in contravention of these provisos about their being a nuisance.

Mr. Justice Lush: Under that resolution of the Metropolitan Board of Works they had a general consent. They had a right to be there, and the London County Council could not order them to be pulled down.

Mr. Danckwerts said if they upheld this line, it did not follow that the buildings could not remain there. If the Metropolitan Board of Works had given its consent to the buildings remaining up in front of the line, there they were and there they remained lawfully. When they were pulled down they may be re-erected. He (Counsel) was there solely in the public interest. Now, the only consent which the old Metropolitan Board of Works could have given was to keep up the old building line, and the building line once fixed could not be altered. The trustees wanted to rebuild, and they went to the Superintending Architect and said: "You fix the building line." He did fix it, and then they objected.

Mr. Justice Lush: My impression is that they wanted to build up to the new line. If you still say now that they can build up to the building line, 11 ft. from the kerb, there will be an end to this litigation.

Dr. Herbert-Smith: We should be delighted to hear it.

Mr. Danckwerts said if their Lordships held that the resolution of the Metropolitan Board of Works in 1867 meant that, then the houses remained. If that was their Lordships' view, they could not be pulled down.

Mr. Justice Lush: Do you contend that that was not a consent?

Mr. Danckwerts: It was part of my original case. Counsel said the transactions of 1867 were not intended to be a general consent, but only intended as a guide as to the kind of consent they would give in the future. He was not going to say that all the buildings were there lawfully, because some of them infringed the consent.

When the hearing was resumed on Friday (the third day) Mr. Danckwerts said his main argument to press in the public interest was that the Fleming case in the House of Lords agreed with his case. Down to August, 1862, it was illegal to erect any buildings within the 50 ft., with consent or otherwise, and the Court of Appeal had held that buildings erected before 1862 continued to be illegal if kept up

after that year, and, being a common nuisance, they remained a common nuisance. Consequently, said Counsel, every building erected on this stretch of Euston-road that was within the 50 ft. limit, erected prior to 1862, was a common nuisance and illegal. And, as to the buildings erected after 1862, unless they were erected with the consent of the authority and in exact accordance with the consent and not otherwise, they were illegal. Nearly the whole of the buildings on Mr. Vulliamy's plan of 1867 were undoubtedly on the building line illegally. There was a resolution of the Metropolitan Board of Works of 1867 which was said to have the effect of legalising these buildings. If they had purported to give a general consent, they would have been illegal, because sect. 75 of the Act of 1862 only entitled them to consider individual applications, and to give individual consents. That resolution only applied to future individual applications. It was said the Metropolitan Board of Works intended to shift the line *en bloc* up to the 11 ft. line. If they did, they did so wholly illegally. Counsel also urged that the Court had nothing to do with the consequences of deciding the building line.

Dr. Herbert-Smith, in reply, said that if prior to 1894 they had called upon the Superintending Architect to define the line he would have had to take into account the question of consents.

Mr. Justice Ridley said the case was one of importance, and the Court would put their judgment in writing.

Judgment was accordingly reserved.

## LONDON COUNCILS.

*Barnes.*—Application is to be made to the Road Board for a grant towards improvement works in High-street. At the last meeting of the Council a motion by Mr. Bates, that five houses for the working-classes be erected in Lower Richmond-road, was lost. In the discussion on the question it was stated that it was an impossibility to get a cottage under 9s. a week, which arose from the fact that private enterprise did not include the building of cottages. The value of the land upon which it was proposed that the cottages should be built was estimated at 150*l.*, and it was doubted if builders would be able to erect cottages and let them at rents suitable for workmen. Plans have been passed for Mr. R. Skinner for the erection of two houses in Richmond Park-road, also for Messrs. W. G. Smith & Sons, for additions to Cleveland Laundry, Station-road. Mr. Carwithin has lodged plans for the erection of a cinematograph theatre in High-street, Mortlake.

*Battersea.*—With a view to relieving the serious congestion of traffic which occurs at certain times of the day along Clapham Common South-side, and Balham-hill, the London County Council propose to construct a lay-by leading from the former road to Nightingale-lane, at an estimated cost of 750*l.* The carriageway of Ascalon-street is to be repaired with granite macadam at an estimated cost of 166*l.* Mr. J. Cobeldick has lodged plans with the London County Council for the erection of a building in Thurleigh-road.

*Bermondsey.*—In regard to the judgment in the case of Daubney *v.* Angel, given at the Tower Bridge Police Court, and published in our issue of December 27, the General Purposes Committee congratulates the Council on winning, as they state the effect would be the saving of a considerable sum of money per annum, not only to Bermondsey, but to all other Metropolitan Borough Councils, to whom a copy of the judgment is to be forwarded. Certain alterations are to be carried out at the Rotherhithe Town Hall at an estimated cost of 600*l.* Mr. A. F. Wrighton, 26, Budge-row, has been appointed Quantity Surveyor in connexion with this work at a fee of 2½ per cent. on the cost thereof. The tender of the Strand Building Company, 200, Strand, W.C., has been accepted at 2,458*l.* for constructing an underground convenience at Joiner-street. Other tenders were received from Mr. Edwin Wall, Alice Works, Summerstown, S.W., 2,569*l.*; Messrs. Edward Proctor & Sons, 326, High-street, Plumstead, S.E., 2,869*l.*; Messrs. Barrett & Power, Lyme-grove, Hackney, N.E., 2,892*l.*; Messrs. E. Lawrance & Sons, Ltd., 15 and 16, Wharf-road, City-road, N., 2,964*l.*; Messrs. G. Parker & Sons, 124, Sumner-road, Peckham, S.E., 3,295*l.*; Messrs. Doulton & Co., Ltd., Lambeth, S.E., 3,437*l.*; Messrs. B. Finch & Co., Ltd., 82, Belvedere-road, Lambeth, S.E., 3,585*l.* Plans have been passed for Messrs. Griggs & Son, 71, Manchester-road, E., for the erection of a cinematograph hall in Salisbury-street; also for Messrs. Greenwood, Ltd., 12 and 14, Arthur-street West, E.C., for the erection of a factory and works in Grange-road for Messrs. Hepburn, Gale, & Ross.

*Brentford.*—Certain additional works are to be carried out at the workhouse laundry by Mr. W. J. Dickens, at a total cost of 189*l.*

*Camberwell.*—Mr. G. J. Clarke has lodged plans with the London County Council for the erection of additions to No. 358, Old Kent-road.

*Ealing.*—At a recent meeting of the Town Council, Alderman Griffin called attention to the small number of houses, plans for which had been before the Works Committee. There were, he said, only three small houses in Carew-road before them, apart from fifteen houses for the Ealing Tenants, which were specially financed. It went to prove what a condition the house and land market was in. On the other hand, he was glad to give his testimony to the fact that the cessation of building operations in Ealing had had the effect that the houses were gradually filling up, and that rents were slightly appreciating. The tender of the Roadamant Company has been accepted for laying roadamant in a portion of Northfield-avenue.

*Friern Barnet.*—The Council's contract with Mr. W. J. Jackson in regard to the making up of Chandos and Hollyfield avenues is to be proceeded with. Sanction has been received from the Local Government Board to a loan for the erection of working-class dwellings in Sydney-road.

*Fulham.*—It is proposed to treat one-half of the playground in South Park with tarred clinker, at a total cost of 620*l.* Bell's-alley is to be widened at an estimated cost of 959*l.* Mr. H. Harrington, 234, Bishopsgate, E.C., and Messrs. Phillips & Page, have lodged plans with the London County Council for the erection of a cinematograph hall in Wandsworth-road, and a building in Parson's Green-lane, respectively.

*Hackney.*—Electricity mains are to be extended at an estimated cost of 122*l.* The following plans have been passed:—Mr. Phillip Cornish, cinematograph theatre, Well-street; Messrs. F. & H. F. Higgs, concert hall, rear of No. 195, Mare-street; Messrs. Sheffield Brothers, police section house.

*Hemel Hempstead.*—At the last meeting of the Town Council a suggestion was made that the Surveyor be appointed to act as assessor in connexion with the competitive plans for the new housing scheme. A letter was also read from Mr. Locke to the effect that, when he consented to act, he did not think there would be any local competition. He thought it would be idle to say that he would not know the names of local architects from the plans, and in fairness to everyone he thought an absolutely independent man should be appointed. In reply to a question, Alderman Orchard said that Mr. Locke had suggested that Mr. Goodman, of Reading, should act in his place at a fee of about 25 guineas. Alderman Hodgson said that as they had every confidence in the fairness and impartiality of Mr. Locke, he be appointed assessor to examine the plans. This was carried. An amendment by Councillor Chennels, that an independent assessor be appointed at a fee not exceeding 25 guineas, was not seconded.

*Hendon.*—Sanction has been received from the Local Government Board to the borrowing of a loan for carrying out private street improvements at Langley Park, Shakespeare-road, Tennyson-road, and Milton-road, Mill-hill. The Rural District Council have passed plans lodged by Messrs. T. E. Morgan and A. J. Smith for three houses in Love-lane, Pinner, and two houses in Pinner-view, respectively.

*Heston and Isleworth.*—At a recent meeting of the Education Committee a revised plan for the proposed schools in Alexandra-road was submitted, and sent to the Council to take the necessary steps in the matter. The plan provides for the main building to face Alexandra-road, with a roadway from that road to Campo-road. In April last the Council proposed, after allowing for an entrance to the schools, that the frontage to Alexandra-road should be sold; but the Schools Management Committee have now expressed the opinion that it would be very detrimental to do this, as such land would be sold for building purposes, which would cause the schools to be hemmed in. There was no doubt whatever that in the near future a new infants' school would have to be built on the site, and possibly centres for special subjects, and, if the frontage were disposed of, these buildings would have to be placed considerably in the rear.

*Islington.*—Repairs are to be carried out to the carriageways of Blundell-street and Marlborough and Ashley roads, at an estimated total cost of 335*l.* The carriageway of Benwell-road is to be repaired at an estimated cost of 246*l.* This sum includes putting in a new foundation between Briantwood-road and Hornsey-road. Improvements are to be carried out in Southgate-road. Application is to be made to the Road Board for a grant of 23,960*l.* for paving the carriageway margins of four roads with granite setts, repaving the carriageway margins of three other roads with granite setts, and for paving the carriageway of two roads with wood blocks.

*Lambeth.*—Fresh tenders are to be invited for the construction of an underground convenience at Kennington-gate. The tender of the Improved Wood Pavement Company, Ltd., has been accepted for paving a portion of the carriageway of Waterloo-road with 9 in. by 3 in. by 5 in. creosoted deal blocks, upon a concrete foundation, to be prepared by direct labour at 7s. 8d. per superficial yard. The footway on the northern side of Central-hill is to be repaired at an estimated cost of 178*l.* A plan submitted by Mr. H. P. Mitchell, on behalf of the British Land Company, has been approved for the construction of about 377 ft. of 12-in. pipe sewer.

*Maldens and Coombe.*—At the last meeting of the Urban District Council the question of extending the municipal buildings came up for consideration. The Chairman of the Subcommittee dealing with the matter stated that it was proposed to erect a building on the ground at the back of the present buildings, containing additional office accommodation and a new Council chamber. Mr. Dodds, in moving that the question be referred back for further consideration, said it was a most excellent scheme, but a rough estimate of the cost, as he understood it, would be about 2,000*l.* He admitted the absolute necessity of further accommodation for the staff, but, as far as the Council chamber was concerned, he thought the existing one was sufficient for all purposes. With regard to office accommodation, a little more ingenuity might be exercised in providing it without interfering with the Council chamber. They already had sufficient schemes on hand to which they were pledged, but buildings extension did not come within that category. At present their loans amounted to 50,000*l.*, and if they carried out all the undertakings which they had had under consideration of late, their additional prospective liability would be about 30,000*l.* Existing schemes before the Standing Committees represented about 16,000*l.* Mr. Hodgson remarked that if it got about that they were going to incur such enormous expenditures, the development of the district would be stopped instantly, because there was no doubt that if builders thought that the rates in the district were going to be increased, they were not going to build. Eventually it was decided that plans and estimates should be prepared for submission to the whole Council in committee. The existing public hall scheme is to be abandoned, in view of the fact that plans were originally prepared for the provision of such at the rear of the municipal offices.

*Stepney.*—The London County Council are to be approached with a view to obtaining a subsidy from the Road Board for the widening of Commercial-road East, at or near Britannia Bridge.

*Tottenham.*—Application is to be made to the Road Board for a grant towards the cost of carrying out improvements in West Green-road and Philip-lane. The Engineer has been instructed to proceed with the widening and making up of Church-lane. Plans have been passed as follows:—Messrs. Stapleton & Son, 112, High-street, Stoke Newington, N.E., five houses, Chandos-road; Mr. G. W. Rowley, two houses, South-grove; Messrs. Harris & Sheldon, alterations at No. 23, Grand-parade, Green-lanes, for the Maypole Dairy Company.

*Poplar.*—Plans have been passed for Messrs. J. Bowbrick & Sons and Mr. H. J. Blackman for additions to the International Harvester Company's Crown Wharf, Roach-road, and for the erection of a cinematograph theatre in Parnell-road, respectively.

*Watford (Rural).*—Plans submitted by Mr. W. W. Bourne for the erection of four cottages, Woodside, Leavesden, have been passed.

*Westminster.*—Application is to be made to the London County Council for sanction to the borrowing of 3,325*l.* for acquiring part of the grounds of Lowther Lodge at the junction of Exhibition-road and Kensington-road, for effecting a street improvement. Repairs are to be carried out to the macadam carriageway of Eaton-square at an approximate cost of 115*l.* An extended triangular island footway is to be constructed round the statue of King George III. at the junction of Pall Mall East and Cockspur-street at an estimated cost of 180*l.* The tender of Messrs. H. B. Smith & Co., 20, Victoria-street, S.W., has been accepted for tar-spraying macadam roads at 2d. per square yard.—The Works Committee report having received a letter from the London County Council, asking to be furnished with information as to the estimated additional cost due to motor-bus traffic of

LONDON COUNCILS—*continued on page 132.*

# List of Competitions, Contracts, etc.

**For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xiv.; Auction Sales, xx. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.**

**The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.**

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

## Competitions.

JANUARY 31. — **Hemel Hempstead.**—HOUSING SCHEME.— Premium 20*l.* Particulars from the Town Clerk, Hemel Hempstead. Deposit, 1*l.* 1s.

JANUARY 31.—**Jamaica.**—MUNICIPAL BUILDINGS. —To cost 9,000*l.* Premium 100*l.* Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (2s.)

FEBRUARY 3. — **Harrogate.** — SCHOOL. — The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1, 1912, for further particulars.

FEBRUARY 4.—**Hayti.**—DESIGNS FOR A NATIONAL PALACE AT PORT-AU-PRINCE.—See "Competition News," December 20, 1912, page 748

FEBRUARY 15. — **Winnipeg.** — CITY HALL. — Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A.

FEBRUARY 22.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, 1911, page 635.

FEBRUARY 26. — **Bristol.** — DESIGNS FOR LUNETTES.—The Academy of Fine Arts, Bristol, invite competitive sketch designs for painted figure compositions to fill four segmental lunettes under the dome of the Academy. See advertisement in issue of January 10 for further particulars.

MARCH 1.—**Rangoon.**—MUNICIPAL BUILDINGS.— The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in August 2 and 30, 1912, for further particulars.

MARCH 1.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. See page 173, August 9,, and page 350, September 27, 1912.

* APRIL 29.—**Barnet.**—MUNICIPAL OFFICES.—The Barnet U.D.C. invite designs for new Municipal Offices. See advertisement in this issue for further particulars.

JULY 10. — TOWN-PLANNING SCHEME. — Promoted by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas.

NO DATE.—**Folkestone.**—PROPOSED KURSAAL.— Cost not to exceed 20,000*l.* Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 8, 1912.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*

* NO DATE.—**Reading.**—SCHOOLS.—The Reading Education Committee invite designs for the Kendrick Boys' and Girls' School. Competition limited to architects resident or carrying on business within the borough. See advertisement in this issue for further particulars.

## Contracts.

### BUILDING.

***The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.***

JANUARY 24.—**Preston.**—BUILDINGS.—For construction of headquarter buildings at Preston, for the accommodation of the Duke of Lancaster's Own Yeomanry. Quantities and forms of tender from the Surveyor, East Lancashire Association, T.F., Town Hall-chambers, Ashton-under-Lyne, on deposit of 1*l.* Tenders to the Secretary, East Lancashire Association, National-buildings, St. Mary's Parsonage, Manchester.

JANUARY 25.—**Darwen.**—STATION.—For erection of a new fire-station, etc., at the gasworks. Plans and specifications at the office of the Gas Engineer. Tenders to Mr. W. P. Halliwell, Town Clerk, Darwen.

JANUARY 25.—**Kingussie.**—ADDITIONS, ETC.— The Highland Railway Company invite tenders for addition to and alterations on refreshment-room buildings on down platform, Kingussie Station. Plans with Mr. William Roberts, the company's Engineer-in-Chief, at Inverness, or with the stationmaster at Kingussie. Specifications and quantities from the Engineer-in-Chief. Tenders to Mr. Geo. T. Cornet, Secretary, The Highland Railway Company's Offices, Inverness

JANUARY 25.—**Leigh.**—CHURCH.—For erection of a new United Methodist church, Wigan-road, Leigh. Quantities from Mr. W. H. Dinsley, architect, 12, Cleveland-street, Chorley, on deposit of 10s. 6d.

JANUARY 25. — **Strathspey.** — ADDITIONS.—For additions to and alterations on Lochindorb shooting lodge. Plans and specifications at the Strathspey Estate Office, and offers to Mr. J. Grant Smith, Factor, Grantown.

JANUARY 27.—**Caerphilly.**—HOUSES.—For the erection of five pairs of houses, also roads, lanes, and sewers, for the Tir-Merchant Park Building Club. Deposit of 1*l.* 1s. for quantities to Mr. T. E. Richards, A.R.I.B.A., architect, Pontypridd.

JANUARY 27.—**Chesterfield.**—DEMOLITION.—For the demolition of the buildings and the removal of the materials comprising the old Three Tuns Inn in Low-pavement and the Dog and Gunn Inn, Castle-yard. Particulars at the office of the Borough Surveyor, Salter Gate.

JANUARY 27.—**Huddersfield.**—CLUB.—Erection of new club premises, St. Thomas's-road, for the Moorbottom Working Men's Club. Messrs J. H. Hall & Son, architects, Exchange, Huddersfield.

JANUARY 27.—**Prestwich.**—SETTS.—For the supply of 1,000 tons of granite setts, 5 in. by 4 in. Tenders to Mr. Lewis A. Orford, Clerk to the Council, Council Offices, Prestwich, near Manchester.

JANUARY 28. — **Norwich.** — MARKET.—For the erection of a fish market in Mountergate-street. Plans and stipulations seen, and specification, form of tender, and quantities from Mr. Arthur E. Collins, M.Inst.C.E., City Engineer, Guildhall, Norwich.

JANUARY 28.—**Southampton.**—CONVENIENCES.— For extension of the public convenience at Pound Tree-road. Plans, specification, form of tender, and quantities at the Borough Engineer's Office, on deposit of 1*l.* 1s.

JANUARY 28. — **Warrenpoint.** — GARAGE.—The Great Northern Railway Company (Ireland) invites tenders for the building of a garage at their Warrenpoint Hotel. Drawing and specification at the Engineer's Offices at Dublin and Belfast. Quantities from Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street Terminus, Dublin, on deposit of 1*l.* 1s.

JANUARY 28.—**Yeovil.**—ADDITIONS.—For alterations and additions for the Black Horse Inn, Yeovil. Drawings seen, and form of tender from Mr. Arthur W. Yeomans, F.R.I.B.A., Cornhill, Chard. Quantities on deposit of 1*l.* 1s.

JANUARY 30.—**Anstruther Easter.**—CENTRE.— For the erection of centre for manual instruction, cookery, and laundry work. Quantities and specifications from Mr. G. Charles Campbell, architect and surveyor. Tenders to Mr. A. C. M'Intosh, Clerk, Anstruther Easter School Board.

JANUARY 30.—**Batley.**—WAREHOUSE.—For the erection of a new warehouse to the Blakeridge Mills, Batley, for Messrs. J. T. & J. Taylor, Ltd. Plans, etc., and quantities from Messrs. Walter Hanstock & Son, architects, Branch-road, Batley.

* JANUARY 30.—**Devonport.**—NURSES' HOME.— The Devonport Guardians invite tenders for a nurses' home. See advertisement in this issue for further particulars.

JANUARY 30.—**Elgin.**—OFFICE.—For new office to be erected at Elgin Cemetery. Plans and specification with Mr. John Wittet, architect, Elgin.

JANUARY 30.—**Heysham.**—SHOPS.—For erection of shops and nine houses, Main-street and Barrow-lane, Heysham, for the Lancaster and District Co-operative Society, Ltd. Plans with Messrs. Austin & Paley, architects, Lancaster. Quantities from Messrs. Wright & Son, surveyors, Lancaster.

JANUARY 30. — **Hull.**—ADDITIONS.—Alterations and additions to Estcourt-street School. Drawings and specifications seen, and quantities, on deposit of 2*l.* 2s., from Mr Joseph H. Hirst, City Architect, Guildhall, Hull.

JANUARY 30. — **Mealsgate.** — ROOMS. — The Directors of the Maryport and Carlisle Railway invite tenders for the building of a storeroom and a ladies' waiting-room at Mealsgate Station. Plans and specifications at the office of the Company's Engineer, Maryport. Tenders to Mr. Thomas Blain, Secretary, Maryport.

JANUARY 30.—**Southwell.**—STABLING.—For the erection of stabling at the Union Workhouse, Southwell. Quantities from the engineers, Messrs. Sands & Walker, Milton-chambers, Nottingham. Tenders to Mr. John Ellis, Clerk to the Guardians, Southwell, Notts.

JANUARY 31.—**Kerrykeel.**—CHURCH.—For building and completing new church at Kerrykeel, Co. Donegal. Tenders to the Rev. F Torrens, B.A., The Manse, Kerrykeel. Plans and specifications with Mr. John M'Intyre, architect, Letterkenny.

JANUARY 31.—**Rugby.**—COTTAGES.—For erection of nineteen cottages in Sycamore-grove. Plans and specifications from Messrs. Franklin & Newman, M.S.A., architects and surveyors, Rugby. Deposit of 2*l.* 2s.

FEBRUARY 1.—**Bradford.**—HALL.—For erection of new hall to the central baths. Drawings and general conditions of contract seen, and quantities and form of tender from the City Architect, Town Hall, Bradford. Tenders to Mr. F. Stevens, Town Clerk, Town Hall, Bradford.

FEBRUARY 3.—**Hull.**—ADDITIONS, ETC.—Alterations and additions, No. 1, Victoria-parade, Hedon-road, for proposed branch lending library. Drawings and specifications seen, and quantities, on deposit of 2*l.* 2s., to Mr. Joseph H. Hurst, City Architect, Guildhall, Hull.

FEBRUARY 3.—**Mexborough.**—EXTENSIONS.—For extensions to electric power-station at Mexborough. Plans and particulars seen, and quantities from Messrs. G. White & Son, architects and surveyors, Market-place, Mexborough, on deposit of 1*l.* Tenders to Mr. J. W. Hattersley, Clerk, Hope-street, Mexborough.

FEBRUARY 4. — **Bromley.** — CONVENIENCE.—For the erection of a women's and men's convenience on the King's Meadow Recreation-ground. Drawings on deposit of 1*l.* Specifications and details at the Borough Engineer's Office. Tenders to Mr. Fred H. Norman, Town Clerk, Municipal Offices, Bromley, Kent.

FEBRUARY 4.—**Swinton.**—HOUSE.—For the erection of engine and pump house at Piccadilly Waterworks. Plans seen, and particulars from Mr. H. Birks, Engineer and Surveyor, Council Offices, Swinton, near Rotherham, on deposit of 1*l.*

FEBRUARY 5.—**London.**—VILLAS.—For erection of ten semi-detached villas; also for blocks of four and five houses respectively, in north-west London. Plans and specifications from Messrs. Trevor & Taaffe, architects and surveyors, 22, Norfolk-row, Sheffield, or 60, Chancery-lane, London, on payment of 2*l.* 2s.

* FEBRUARY 6.—**Friern Barnet.**—COTTAGES.— The Friern Barnet U.D.C. invite tenders for fifteen workmen's cottages. See advertisement in this issue for further particulars.

FEBRUARY 6. — **Penwithick.** — CHURCH.—For erection of a new Wesleyan church. Drawings and specifications with Messrs. F. C. Jury & Son, architects and surveyors, Tregarthen, Poltaire, St. Austell.

* FEBRUARY 6.—**Rushall.**—SCHOOL.—The Staffordshire Education Committee invite tenders for new Council school. See advertisement in this issue for further particulars.

FEBRUARY 7.—**Biggin.**—ADDITIONS.—For additions to Biggin Council School. Plans seen, and specifications, with quantities, from the Education architect, County Hall, Wakefield, on deposit of 1*l.* Tenders to Mr. Francis Alvey Darwin, Clerk of the County Council.

FEBRUARY 7.—**Drighlington.**—EXTENSION.—For the extension of the boys' cloakroom, etc., at the Drighlington Central Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 1*l.* Tenders to Mr. Francis Alvey Darwin, Clerk of the County Council, County Hall, Wakefield.

FEBRUARY 7.—**Holmfirth.**—SCHOOL.—For erection of Holmfirth new school. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield, on deposit of 1*l.* Tender to Mr. Francis Alvey Darwin, Clerk of the County Council.

FEBRUARY 8.—**Chorlton.**—RIDING SCHOOL.— Erection of riding school for the accommodation of the Duke of Lancaster's Own Yeomanry, East Lancashire Division, Royal Engineers, and Royal Army Medical Corps, Chorlton, Manchester. Quantities and forms of tender from the Surveyor, East Lancashire Association, T.F., Town Hall-chambers, Ashton-under-Lyne, on deposit of 1*l.* Tenders to the Secretary, East Lancashire Association, National-buildings, St. Mary's Parsonage, Manchester.

FEBRUARY 10.—**St. Andrews.**—DOCK WORKS.— For the reconstruction of dock entrances, gates, sluicing, piling, and other works. Plans and specification with Messrs. D. & C. Stevenson, civil engineers, 84, George-street, Edinburgh. Quantities on deposit of 1*l.* Tender to Mr. Hugh Thomson, Clerk to the Harbour Trustees, 115, South-street, St. Andrews.

FEBRUARY 10.—**Swansea.**—PICTORIUM.—For the erection of the Pictorium (Picture Theatre), St. Thomas, for the Pictorium, Ltd. Plans and specifications seen, and quantities from Mr. Charles T. Ruthen, architect, Bank-chambers, Heathfield-street, Swansea. Tenders to Mr. W. G. Christians, 20, Fisher-street, Swansea.

## BUILDING—*continued.*

*The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.*

* FEBRUARY 11.—**Warwick.**—POST-OFFICE ENLARGEMENT.—The Commissioners of H.M. Works and Public Buildings invite tenders for enlargement of post-office. See advertisement in this issue for further particulars.

FEBRUARY 12.—**Edinburgh.**—WASHHOUSES.—For the erection of proposed new washhouses, Fountainbridge. Plans and specifications at the office of Mr. J. A. Williamson, A.R.I.B.A., Public Works Office, City-chambers.

* FEBRUARY 14.—**Stroud.**—EXTENSION OF POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for extension of head post-office. See advertisement in this issue for further particulars.

FEBRUARY 17.—**Carnarvon.**—HOUSES.—For the erection of twenty-five workmen's houses. Plans, general conditions, specification, and form of tender with Mr. Edward Hall, Borough Surveyor, Guildhall, Carnarvon.

* FEBRUARY 18.—**Durham.**—TRAINING COLLEGE.—The Durham County Education Authority invite tenders for a training college for women at Nevilles' Crosses. See advertisement in this issue for further particulars.

FEBRUARY 21.—**Colchester.**—SCHOOL.—For erection of a school in Hamilton-road, Colchester. Plans and specification with the architect, Mr. D. W. Clark, A.R.I.B.A., P.A.S.I., 3, High-street, Colchester. Quantities on deposit of 5*l.*

FEBRUARY 22.—**Briton Ferry.**—HOUSES.—For the erection of sixty-two houses. Plans and specifications, on deposit of 1*l.* 1s., from Mr. H. Alex. Clarke, Architect and Surveyor, Council Offices, Briton Ferry.

SEPTEMBER 10.—**Chile.**—ELECTRIC STATION.—For the establishment of a thermo-electric central station and distribution of electric energy at the Port of Valparaiso. Basis and specifications at the offices of the Chilean Legation, 48, Grosvenor-square, W.

No DATE.—**Bacup.**—SHOPS, ETC.—Erection of six new shops and Sunday-school in Market-street, Bacup. Messrs. Smith & Cross, architects, Town Hall-chambers, Rochdale

No DATE.—**Barnard Castle.**—BLOCK.—For new Infectious Hospital block at Marwood. Names to Mr. R. Brown, Inspector, Barnard Castle.

No DATE.—**Bray.**—BUNGALOW.—For erection of bungalow on the Killarney-road, Bray. Mr. J. R. Burns, C.E., architect, 11, Lower Camden-street, Dublin.

No DATE.—**Chesterfield.**—ADDITIONS.—For the erection of additions and alterations to Christ Church, Chesterfield. Plans, specification, and quantities with the architects, Messrs. Rollinson & Son, 10, Corporation-street, Chesterfield. Deposit of 1*l.* 1s. Tenders to Rev. J. Ducker, Secretary to the Committee, Christ Church Parsonage, Chesterfield.

No DATE.—**Chesterfield.**—THEATRE.—For the conversion of a chapel at Grassmoor into Electric Theatre, for the Chesterfield Corporation Theatre Company, Ltd. Mr. T. S. Wilcockson, architect, Chesterfield.

* No DATE.—**Dartford.**—CINEMA THEATRE.—Tenders are invited for a Cinema Theatre. Messrs. Withers & Meredith, FF.R.I.B.A., architects, 50, Cannon-street, E.C. See advertisement in this issue for further particulars.

No DATE.—**Dovercourt.**—SCHOOL.—For erection of Hill Schools, Dovercourt. Names to the architects, Messrs. Brown & Burgess, Arcade-street, Ipswich. Deposit of 1*l.* 1s.

No DATE.—**Dresden.**—SCHOOLS.—For the erection of infants' schools at Dresden, Staffordshire. Mr. J. H. Beckett, A.R.I.B.A., architect, Longton. Quantities on deposit of 1*l.* 1s.

No DATE.—**Lenton.**—FACTORY.—Restoration of a factory on Castle-boulevard, Lenton, Nottingham. Deposit of 2*l.* 2s. for quantities to Mr. F. R. Ridgway, architect, Long Eaton.

No DATE.—**Normanton.**—HOUSES.—For proposed fourteen houses to be erected in Norwood-street, Normanton Common. Apply Mr. J. H. Thorpe, 341, Castleford-road, Normanton.

* No DATE.—**Tilbury.**—ADDITIONS, ETC.—The Tilbury Constitutional Club invite tenders for alterations and additions to their premises. See advertisement in this issue for further particulars.

No DATE.—**Wakefield.**—HOUSE.—Erection of a house at Barnsley-road, Wakefield. Mr. W. H. Ogden, architect, Peterson-road, Wakefield.

No DATE.—**Weston-super-Mare.**—ALTERATIONS.—For alterations to the buildings, and the fixing of the stallage in the Market Hall, Y.M.C.A. Gymnasium, and the Assembly-rooms. Plans and specifications with Mr. P. G. Fry, architect, High-street, Weston-super-Mare.

## ENGINEERING, IRON, AND STEEL.

JANUARY 27.—**Broadstairs.**—BRIDGE.—For the construction and erection of a lattice girder footbridge, 8 ft. wide, over Louisa Gap, and for the construction of the necessary brickwork, etc., and abutments to support such bridge. Plans and specifications seen, and forms of tender from the Town Surveyor, Mr. H. Hurd, C.E. Council Offices, Broadstairs. Tenders to Mr. L. A. Skinner, Clerk to the Council, Council Offices, Broadstairs.

* JANUARY 28.—**Thornton Heath.**—IRON STAIRCASE.—The Croydon Guardians invite tenders for an iron fire-escape staircase at "Waingates," 316, London-road, Thornton Heath. See advertisement in this issue for further particulars.

FEBRUARY 3.—**Broomfield.**—WELL.—Tenders for making a 14-in. bored tube well at Broomfield, Essex. Plans seen, and specification, general conditions, and form of tender from Mr. James Dewhirst, A.M.Inst.M.E., the Council's Engineer, Bank-chambers, Chelmsford. Tenders to Mr. Arthur S. Duffield, Clerk, 96, High-street, Chelmsford.

* FEBRUARY 3.—**Hendon.**—FIRE-ENGINE.—The Hendon U.D.C. invite tenders for manufacture, supply, and delivery of a petrol motor (combination) fire-engine, with accessories. See advertisement in this issue for further particulars.

FEBRUARY 4.—**Hyde.**—STEELWORK.—For the materials and labour necessary in the construction, delivering, erecting, and fixing of mild steel roof principals for the Public Hall and Police Courts in Corporation-street and Water-street, Hyde. Plans and specifications seen, and quantities, on deposit of 1*l.* 1s., from Mr. James Diggle, Assoc.M.Inst.C.E., Borough Surveyor, Town Hall, Hyde. Tenders to Mr. Thos. Brownson, Town Clerk, Town Hall, Hyde.

FEBRUARY 5.—**Clacton-on-Sea.**—PURIFIERS.—For the erection of a steel roof, cast-iron purifiers, and other work at the gasworks, Old-road, Clacton-on-Sea. Specification and drawings from the Engineer, Mr. S. Francis, A.M.Inst.M.E., Town Hall-buildings, Clacton-on-Sea, on deposit of 2*l.* 2s.

FEBRUARY 5.—**Esher.**—TANKS, ETC.—The construction of two detritus tanks, four precipitation tanks, five 80-ft. percolating filters, two humus tanks, and the laying of cast-iron and stoneware socketed pipe drains connected therewith at sewage-disposal works, Lower Green, Esher. Plans and specification seen, and quantities and form of tender from Mr. H. C. Fread, the Engineer to the Council, Council Offices, Portsmouth-road, Thames Ditton. Deposit of 5*l.*

* FEBRUARY 7.—**Barking.**—ELECTRIC LIGHTING, ETC.—The Barking Town U.D. Education Committee invite tenders for electric lighting and fittings and emergency gaslight service at Ripple School. See advertisement in this issue for further particulars.

* FEBRUARY 7.—**Barking.**—HOT-WATER HEATING.—The Barking Town U.D. Education Committee invite tenders for heating by hot water on low-pressure system at Ripple School. See advertisement in this issue for further particulars.

FEBRUARY 8.—**Radcliffe.**—BRIDGE.—For the construction of a footbridge over the River Irwell, near the Wilton and Pioneer Mills. Drawings, specifications, and quantities from Mr. W. L. Rothwell, the Engineer to the Council, on deposit of 1*l.* 1s. Tenders to Mr. S. Mills, Clerk to the Council, Council Offices, Radcliffe.

FEBRUARY 11.—**Hampton.**—MACHINERY.—For the erection at sewage-disposal works of a duplicate set of condensing steam-engine air compressors, and other subsidiary works. Plan, general conditions, specification, form of tender, and particulars from Mr. Sidney H. Chambers, Surveyor, Public Offices, Hampton, Middlesex.

* No DATE.—**Lichfield.**—HEATING AND HOT-WATER SUPPLY.—The Lichfield Guardians invite tenders for installation of new heating and hot-water supply at Workhouse Infirmary. See advertisement in this issue for further particulars.

## FURNITURE, PAINTING, MATERIALS, etc.

JANUARY 25.—**Walsall.**—PAINTING.—For painting the inside of the Guildhall. Specification by Mr. John Taylor, Borough Engineer and Surveyor. Tenders to Mr. John R. Cooper, Town Clerk, Council House, Walsall.

JANUARY 27.—**Chatham.**—WHITEWASHING, ETC.—For whitewashing, etc., the staff house and twelve cottages at the Cottage Homes. Specification from Mr. A. Reynolds Norman, Clerk to the Guardians, Clerk's Office, 22, High-street, Chatham.

JANUARY 27.—**Golborne.**—DECORATION.—For the decoration of the Council offices. Particulars and forms of tender from Mr. H. Eckersley, Clerk, Council Offices, Golborne, Lancs.

JANUARY 28.—**Birkenhead.**—HOSPITAL.—For painting the interior of portions of the Infectious Diseases Hospital, Flaybrick-hill. Plans and particulars seen, and forms of tender, with specification, from Mr. C. Brownridge, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Birkenhead, on deposit of 5s. Tender to Mr. J. Fearnley, Town Clerk, Town Hall, Birkenhead.

JANUARY 29.—**Bradford.**—PAINTING.—For painter's work required at parks, cemeteries, and recreation-grounds. General conditions of contract seen, and specifications and form of tender from the City Architect, Town Hall, Bradford. Tender to Mr. Frederick Stevens, Town Clerk, Town Hall, Bradford.

* FEBRUARY 7.—**Barking.**—SCHOOL FURNITURE.—The Barking Town U.D. Education Committee invite tenders for supply of school furniture for the Ripple School. See advertisement in this issue for further particulars.

* FEBRUARY 13.—**Watford.**—PAINTING, ETC.—WORKS.—The St. Pancras Guardians invite tenders for painting, decorating, and sundry works at the St. Pancras Schools, Leavesden, near Watford, Herts. See advertisement in this issue for further particulars.

FEBRUARY.—**Stafford.**—PAINTING.—For painting interior of Guild Hall, interior of Municipal cottages, interior of large swimming-bath. Forms of tender and particulars from Mr. W. Plant, A.M.Inst.C.E., Borough Engineer and Surveyor, Borough Hall, Stafford.

* APRIL 3.—**Southgate.**—GARDEN SEATS.—The Southgate U.D.C. invite tenders for supply and delivery of sixty garden seats. See advertisement in this issue for further particulars.

## ROADS, SANITARY AND WATER WORKS.

JANUARY 27.—**Beccles.**—GRANITE, ETC.—For supply of granite, red broken gravel, fine gravel, shingle, and best fine marl. Forms of tender from Mr. S. W. Rix, Clerk, Beccles.

JANUARY 28.—**Shoeburyness.**—ROADS.—For making-up Caulfield-road, Waterloo-road, Richmond-avenue (part); also for laying surface-water drainage in the same roads. Drawings and specifications seen, and form of tender, with quantities, from the Surveyor, Mr. F. Feather, Council Offices, Shoeburyness, on deposit of 1*l.* 1s. Tenders to Mr. Frederick Gregson, Clerk, 46, Alexandra-street, Southend-on-Sea.

JANUARY 29.—**Worsley.**—FLAGS.—For the supply of concrete flags. Tender from Mr. J. Howard, Surveyor to the Council, Town Hall, Walkden.

JANUARY 30.—**Arnold.**—ROAD.—For the making-up of Grange-road, Woodthorpe. Forms of tender, specifications, etc., from the Council's Engineer, Mr. R. E. Clarke, Public Offices, Arnold, Notts. Deposit of 1*l.* 1s. Tenders to Mr. C. Ford Spencer, Clerk to the Council, Public Offices, Arnold, Notts.

FEBRUARY 1.—**Holyhead.**—SEWAGE.—For the construction of three lengths of sewers, totalling in all about 1,270 yds. lineal, with manholes and incidental works. Plans and specifications seen, and quantites and forms of tender from Mr. Arthur Asquith, the Surveyor to the Council, Town Hall, Holyhead. Deposit of 1*l.* Tenders to Mr. T. R. Evans, Clerk to the Council, U.D.C. Offices, Holyhead.

FEBRUARY 1.—**Ilkeston.**—SEWERAGE.—For the laying and jointing of about 1,260 lin. yds. of 30-in. cast-iron pipe sewers, 1,180 lin. yds. of 27-in. concrete tube sewers, 1,050 lin. yds. of 24-in. concrete tube sewers, 1,650 lin. yds. of 18-in. stoneware pipe sewers, 3,100 lin. yds. of 15-in. stoneware pipe sewers; 3,500 lin. yds. of 12-in. stoneware pipe sewers, 4,050 lin. yds. of 9-in. stoneware pipe sewers, 300 lin. yds. of 24-in., 18-in., 15-in., and 12-in. cast-iron pipe sewers, with the construction of manholes and flushing chambers; the constructon of an engine-house at Botany Bay; the provision, laying, and jointing of 8-in., 6-in., 5-in., and 4-in. cast-iron rising mains; together with various alterations to the existing pumping-stations and other works at Botany Bay, Potter's Lock, and Gallows Inn. Drawings and specification seen, and quantities, with form of tender, from the engineers, Messrs. Willcox & Raikes, 63, Temple-row, Birmingham. Deposit of 5*l.* 5s.

FEBRUARY 1.—**Luton.**—PIPES.—For the supply of concrete and stoneware pipes. Specification and form of tender from Mr. J. W. Tomlinson, Borough Engineer, Town Hall, Luton.

FEBRUARY 3.—**Adlington.**—SETTS, ETC.—For the supply of about 11,000 tons of 4-in by 5-in. granite setts, and about 2,000 tons of 4-in. by 4-in. granite cubes. Forms of tender from Mr. W. H. Schofield, Assoc.M.Inst.C.E., County Offices, Preston.

FEBRUARY 3.—**Lepton.**—GRANITE, ETC.—For supply of granite, dross, etc. Quantities and dimensions, with forms of tender, from Mr. G. W Smith, Clerk, 23, John William-street, Huddersfield.

* FEBRUARY 3.—**Manchester.**—MAIN DRAINAGE WORKS.—The Manchester Corporation invite tenders for main drainage works, Nos. 8 (1) and 8 (2) (new sewers), in the district of Withington. See advertisement in this issue for further particulars.

FEBRUARY 3.—**Manchester.**—WORKS.—For works at the Didsbury Parish Churchyard. Plans seen, and specifications, quantities, and forms of tender at the City Surveyor's Office, Town Hall, Manchester. Deposit of 2*l.* 2s.

FEBRUARY 3.—**Wath-upon-Dearne.**—STREET WORKS.—For the making-up of Back Avenue and Beech roads, Cross Avenue and Beech roads, and for footpath construction in Avenue-road and Beech-road. Specification and form of tender from Mr. J. H. Drew, Engineer and Surveyor, Town Hall, Wath-upon-Dearne. Tenders to Messrs. Nicholson & Co., Clerks to the Council, Wath-upon-Dearne.

FEBRUARY 4.—**Desborough.**—GRANITE, ETC.—For a supply of broken granite and slag. Forms of tender from Mr. Geo. E. Marlow, Surveyor, Council Offices, Desborough.

FEBRUARY 4.—**London.**—ROADS.—For sewering, levelling, paving, metalling, kerbing, channelling, and making good Chestnut-avenue, and backway by Wightman-road, leading to Denmark-road, Hornsey. Forms of tender, etc., and particulars from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, Highgate.

FEBRUARY 4.—**Meriden.**—STONE.—For the supply of granite, or similar stone. Mr. A. W Liggins, Clerk, 11, Priory-street, Coventry.

FEBRUARY 4.—**Northampton.**—GRANITE.—For the supply of granite, slag and gravel. Mr. Wm. Fawkes, Clerk, 4, Derngate, Northampton.

* FEBRUARY 5.—**Fulham.**—MAKING-UP CARRIAGEWAY.—The Fulham B.C. invite tenders for making-up carriageway of Crabtree-lane, section 3. See advertisement in this issue for further particulars.

FEBRUARY 6.—**Bosmere.**—GRANITE.—For the supply of granite, and for pit stones and picked stones. Forms of tender and contract from Mr. George Fiske, Surveyor, The Red House, Coddenham. Tenders to Mr. R. M. Cook, Clerk, Council's Offices, 6, Providence-street, Ipswich.

FEBRUARY 6.—**Manchester.**—RECREATION-GROUND.—For the laying-out, etc., of New Moston Recreation-ground. Plans seen, and specifications, quantities, and form of tender at the City Surveyor's Office, Town Hall, Manchester. Deposit of 2*l.* 2s.

FEBRUARY 8.—**York.**—MATERIALS.—For supply of Portland cement, stoneware pipes, Yorkshire stone flags, kerbing, and edging, whinstone (broken and rough), slag (broken and rough), and limestone chippings. Forms of tender from Mr. F. W. Spurr, City Engineer, Guildhall, York.

FEBRUARY 12.—**Wincanton.**—MAIN.—For the laying of 4,500 yds. of 3-in. cast-iron main, with sundry valves and fittings. Plans and specifica-

**ROADS, etc.—*continued.***

*The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.*

tion with Mr. E. N. Martin, Clerk to the Council, Poor Law Office, Wincanton, Somerset.

FEBRUARY 15.—**Windermere.**—SEWERAGE.—For the laying and jointing of about 6,500 lin. yds. of 18-in. stoneware pipe sewers, 510 lin. yds. of 12-in. cast-iron pipe sewers, 1,350 lin. yds. of 8-in. cast-iron pipe sewers, 1,300 lin. yds. of 5-in. cast-iron pipe sewers, 1,800 lin. yds. of 12-in. stoneware pipe sewers, 2,760 lin. yds. of 9-in stoneware pipe sewers, 200 lin. yds. of 6-in. stoneware pipe sewers, with manholes, lampholes, and the construction of sedimentation tanks, bacteria beds, effluent tanks, sludge lagoons, engine-houses, pump wells, roads, and other incidental works. Quantities, form of tender, drawings, and specification with the engineers, Messrs. Wilcox & Raikes, 63, Temple-row, Birmingham. Deposit of 5*l.* 5s.

FEBRUARY 17.—**Surbiton.**—MATERIALS.—For supply of broken Guernsey and Penlee granite, concrete paving flags, Norway granite kerbing, Norway granite paving setts, Kent flints, slag tarred macadam, quarrite. Mr. Frederick W Wood, Clerk to the Council, Council Offices, Ewell-road, Surbiton.

NO DATE.—**Evereresch.**—MAIN, ETC.—For 1¾ miles 3-in. and 1 mile 4-in. main and laying, also concrete reservoir, 30,000 gallons. Specification and quantities, on deposit of 2*l.* 2s. to Mr. W. Phelps, C.E., Shepton Mallet, Somerset.

## Public Appointments.

| Nature of Appointment. | By whom Advertised. | Salary. | Applics to be in |
|---|---|---|---|
| *SURVEYOR | Wells City Council | 150*l.* per annum | Jan. 30 |
| *QUANTITY SURVEYOR | Beckenham Education Com. | See advertisement in this issue | Feb. 10 |

## Auction Sales.

| Nature and Place of Sale. | By whom Offered. | Date of Sale. |
|---|---|---|
| *BUILDER'S STOCK AND PLANT, SOUTH TOTTENHAM, N.—On the Premises | Joseph Hibbard & Sons | Jan. 28 |
| *DEALS, BATTENS, BOARDS, TIMBER, ETC.—Great Hall, Winchester House, E.C. | Churchill & Sim | Jan. 29 |
| *BUILDING MATERIALS, TWICKENHAM—On the Premises | Hooker & Webb | Jan. 30 |
| *SITE FOR SHOPS, ETC., HIGH HOLBORN—At the Mart | Thurgood & Martin | Feb. 18 |

LONDON COUNCILS—*continued from page* 129.

maintaining roads in the city, and the estimated amount saved in the city in respect of the cost of maintenance of roads by virtue of the fact that tramway tracks and margins are maintained by the London County Council, for the year ended March 31 last. The County Council also ask whether the figures for the year in question are in any respect abnormal, and, if so, what adjustment is needed so that the year dealt with may be regarded as typical. They also state that it is desirable in estimating the additional cost, due to motor-omnibus traffic, of maintaining roads, that regard should be had both to the current cost of maintenance—*i.e.*, for repairing, but not for scavenging—and to the debt charges in respect of capital expenditure for paving, etc., of roads, and the expenditure for repaving works charged to rate account, so far in each case as such expenditure may have been necessitated by motor-omnibus traffic. A reply is to be sent to the effect that, with regard to motor-omnibus traffic, the Council are unable to say what effect motor-omnibus traffic alone has upon the roads of the city. Motor traffic generally affects macadam roads prejudicially, and perhaps to some slight extent asphalt roads also, but it cannot be said that, as a result of motor traffic in Westminster, there has been any increase in cost of maintaining wood-paved roads originally laid on present approved methods. As to tramway traffic, the track and margins being maintained by the County Council, the area of roadway to be maintained by the road authority is reduced, but the use of the middle of the roadway by the tram tends to drive the greater portion of the general vehicular traffic on to the portions of the roadway maintained by the road authority, thus increasing the cost of maintaining that portion. The London County Council have agreed to contribute 15,000*l.* towards the cost of widening Argyle-place, Kingly-street, and Poland-street, on the understanding that, in the execution of the improvement, no departure will be made from the approved plan, except with the previous sanction of the County Council.—Plans lodged by Messrs. Clarke & Garbutt for the extension of vaults at the Florence Restaurant in Rupert-street have been passed.

## OBITUARY.

### Mr. F. T. Reade.

Mr. Frederick Thomas Reade, Hon. Associate R.I.B.A., and formerly A.M.Inst.C.E., died on January 16, in his eightieth year, at his residence, No. 28, Great Ormond-street, W.C. He was elected an Honorary Associate of the Institute in 1877, and served upon the Science Standing Committee. In February, 1905, he was appointed to the General Committee for the seventh International Congress of Architects held in London in July, 1906.

### Mr. E. Manisty, M.Inst.C.E.

The death, on January 11, at Woburn Sands, is announced of Mr. Edward Manisty, managing director of Messrs. C. H. Walker & Co., who have lately executed large engineering works in South Africa. Mr. Manisty, a son of the late Mr. Justice Manisty, was a scholar of Corpus Christi College, Cambridge, and proceeded B.A. in 1866, Senior Optime, Mathematical Tripos. He was articled to the late Mr. Fowler; in 1875-77 he was chief engineer for the construction of the Ballymena and Cushendale railways, and the railway and harbour works, Greenore. He then acquired the Dundalk ironworks and, as agent to the contractor, Mr. T. A. Walker, took part in constructing the eastern section of the Manchester Ship Canal. He frequently went abroad, to Australia, South Africa, and South America, to report upon maritime and inland constructural projects; in 1898 he visited Egypt, for Sir Benjamin Baker, to report upon proposed plans for docks at Alexandria; ten years ago he became agent to Messrs. Price & Reeves, contractors, for the Charing Cross and Golder's Green tube line.

### Mr. W. A. Coombs.

The late Mr. William Allen Coombs, of No. 31, Charing Cross, S.W., was elected an Associate of the Royal Institute of British Architects in 1881. In our issue of September 10, 1898, we illustrated the designs which he, jointly with Mr. E. Towry Whyte, made for the church of St. Bartholomew, Southsea; he was also architect for the restoration of All Saints' Church, Mellingham, Suffolk, about fifteen years ago.

### The late Mr. Grayson's Estate.

The estate of the late Mr. George Enoch Grayson, F.R.I.B.A., of Green Bank, Egerton Park, Rock Ferry, who died on November 7, aged seventy-eight years, has been valued at 55,750*l.* gross, with net personalty 54,074*l.*

## PATENTS.

APPLICATIONS PUBLISHED.*

28,513 of 1911.—Hans Järw: Water-closets.

29,047 of 1911.—John William Towle and James Gough: Cleaning of tubes.

3,027 of 1912.—James Hardress de Warrenne Waller and Peter Chalmers Cowan: Metallic elements of reinforced concrete structures.

14,006 of 1912.—Francis Joseph James Gibbons: Fasteners for casement windows.

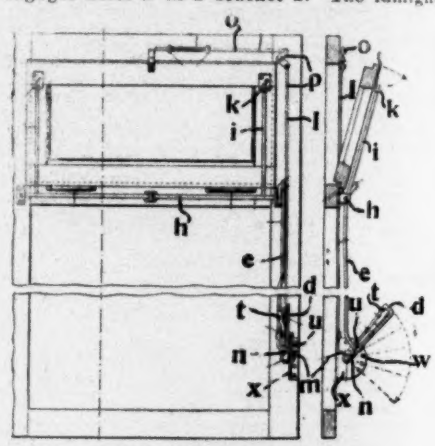
18,517 of 1912.—William Henry Gruely: Floor tiles.

25,641 of 1912.—William Allinson Dexter and John Paterson Little: Nozzle for spraying water or other liquid.

### SELECTED PATENTS.

19,168 of 1911.—Paul Günther and Hubertus Jacobi: Fanlight operating apparatus.

This relates to combined opening, closing, and fastening apparatus for fanlights. The fanlight is opened by means of arms *i*, working in slotted brackets *k* on the fanlight, and carried by a rod *h*, which is rotated by means of a rod *e* connected to the cranked end of the rod *h* and to an operating handle *d*. The fanlight is held in various open positions by means of a spring pressed lever *t* mounted on the handle *d*, and having a pin *u*, which engages holes *w* in a bracket *x*. The fanlight

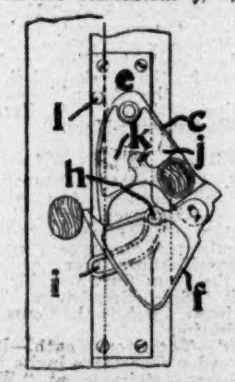


19,168 of 1911.

is fastened in the closed position by means of a sliding spring-bolt *o*, operated by a bell-crank lever *p* and rod *l*, the lower end of which is bent at *m* and rests on a lug *n* on the operating-handle, the unfastening taking place before any substantial movement of the opening apparatus occurs.

19,376 of 1911.—Harry Cottrell: Extension ladders.

This relates to extension ladders as described in Specification No. 22,540/10. The ladder locks *c*, and the releasing arms *f*, which are freely pivoted on the lower ends of the locks, have pin-and-slot connexions *j*, *k*, and *h*, *i*,



19,376 of 1911.

with plates *e* secured to the sliding sections. The slots *i*, *k* are formed with raised rims, and may be made in the releasing-arms and in the locks with the engaging pins on the plates *e*. Additional stops *l* for the locks may be fixed on the plates *e*.

*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

## ELECTRIC LIGHTING.

Some interesting figures have been brought to our notice in reference to economy in electric lighting. An 8-candle-power Mazda lamp will, we are informed, consume one unit of electricity in one hundred hours. With electrical energy at 4d. per unit (an average price), this lamp can be burned for twenty-five hours at a cost of one penny. For 1-360 of a penny, which represents the cost of a match, therefore, about four and a quarter minutes of Mazda lighting can be enjoyed. A dozen matches saved means an extra hour of light from an 8-candle-power Mazda lamp, and, on this computation, in the course of a year the householder who uses Mazda lamps will have had 365 hours of light paid for by his match economies.

## TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 28s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 6d. per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to J. MORGAN) should be addressed to The Publisher of "THE BUILDER," 4, Catherine-street, W.C.

## SOME RECENT SALES OF PROPERTY:

### ESTATE EXCHANGE REPORT.

January 14.—By PAISH, TYLER, & Co.

| | |
|---|---|
| New Cross.—2, 4, and 6, Baildon-st, u.t. 82 yrs., g.r. 10l. 10s., w.r. 52l. 14s. | £100 |

By WINTERTON & SONS.

| | |
|---|---|
| Walsall, Staffs.—1, White-st, f. | 220 |
| 44 to 50, Mount-st., f., w.r. 99l. 9s. | 1,050 |
| Aldridge, Staffs.—Station-rd., two houses and shop, f. | 500 |

January 15.—By BEARD & SON.

| | |
|---|---|
| Fulham.—17, New King's-rd. (s.), u.t. 83 yrs., g.r. 10l., y.r 70l. | 500 |
| 205, New King's-rd. (s.), u.t. 85 yrs., g.r. 14l., e.r. 75l. | 365 |

By A. W. TAYLOR & Co.

| | |
|---|---|
| Barnes.—109, Castlenau, u.t. 12½ yrs., g.r. 10l. 5s., e.r. 75l. | 285 |

January 16.—By C. C. & T. MOORE.

| | |
|---|---|
| Poplar.—38, 80, and 82, Pekin-st., f., w.r. 69l. 7s. | 815 |
| 15, Upper North-st., f., w.r. 23l. 8s. | 245 |
| 9, Bow-la., f., w.r. 28l. 12s. | 225 |
| 17, Cotton-st., f., w.r. 24l. 12s. | 235 |

By BISLEY & SONS.

| | |
|---|---|
| Camberwell.—40 to 52 (even), Barkworth-rd., u.t. 64 yrs., g.r. 35l., w.r. 236l. 12s. | 990 |
| 3, 5, 7, and 9, Milledge-st., u.t. 64 yrs., g.r. 20l., w.r. 135l. 4s. | 490 |

*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; h.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

## TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

## PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

### BRICKS, &c.

| Per 1000 Alongside, in River. | £ s. d. |
|---|---|
| Best Stocks | 1 15 0 |
| Picked Stocks for Facings | 2 10 0 |

| Per 1000, Delivered at Railway Depôt. | £ s. d. | | £ s. d. |
|---|---|---|---|
| Flettons | 1 13 6 | Best Blue Pressed Staffordshire | 3 15 0 |
| Best Fareham Red | 3 12 0 | Do. Bullnose | 4 0 0 |
| Best Red Pressed Ruabon Facing | 5 0 0 | Best Stourbridge Fire Bricks | 4 0 0 |
| GLAZED BRICKS— | | | |
| Best White, Ivory, and Salt Glzd.Str'tch'rs | 12 7 6 | Double Headers | 14 17 6 |
| | | One Side and two Ends | 18 17 6 |
| Headers | 11 17 6 | Two Sides and one End | 19 17 6 |
| Quoins, Bullnose, and 4½ in. Flats | 15 17 6 | Splays & Squints | 17 7 6 |
| D'ble Stretchers | 17 17 6 | | |

Second Quality £1 10s. per 1000 less than best.

| | s. d. | |
|---|---|---|
| Thames and Pit Sand | 6 9 | per yard, delivered. |
| Thames Ballast | 5 6 | " " |
| Best Portland Cement | 36 0 | per ton, " |
| Best Ground Blue Lias Lime | 19 0 | " " |

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 6d. per yard delivered
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

### STONE.

Per Ft. Cube.

| | s. d. |
|---|---|
| BATH STONE—delivered on road waggons, Paddington Depôt | 1 7½ |
| Do. do. delivered on road waggons, Nine Elms Depôt | 1 9 |
| PORTLAND STONE (30 ft. average)— | |
| Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf | 2 3 |
| White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf | 2 4½ |

Per Ft. Cube, delivered at Railway Depôt.

| | s. d. | | s. d. |
|---|---|---|---|
| Ancaster in blocks | 1 10 | Closeburn Red Freestone | 2 0 |
| Beer in blocks | 1 6 | Red Mansfield Freestone | 2 4 |
| Greenshill in blocks | 1 10 | Talacre & Gwespyr Stone | 2 4 |
| Darley Dale in blocks | 2 4 | | |
| Red Corsehill in blocks | 2 3 | | |

YORK STONE—*Robin Hood Quality.*

| Per Ft. Cube, Delivered at Railway Depôt. | s. d. |
|---|---|
| Scappled random blocks | 2 10 |
| **Per Ft. Super., Delivered at Railway Depôt.** | |
| 6 in. sawn two sides landings to sizes (under 40 ft. super.) | 2 3 |
| 6 in. rubbed two sides ditto, ditto | 2 6 |
| 3 in. sawn two sides slabs (random sizes) | 0 11½ |
| 2 in. to 2½ in. sawn one side slabs (random sizes) | 0 7 |
| 1½ in. to 2 in. ditto, ditto | 0 6 |
| HARD YORK— | |
| **Per Ft. Cube, Delivered at Railway Depôt.** | |
| Scappled random blocks | 3 0 |
| **Per Ft. Super., Delivered at Railway Depôt.** | |
| 6 in. sawn two sides landing to sizes (under 40 ft. super.) | 2 8 |
| 6 in. rubbed two sides ditto | 3 0 |
| 3 in. sawn two sides slabs (random sizes) | 1 2 |
| 2 in. self-faced random flags | 0 5 |

### SLATES.

Per 1000 of 1200 at Railway Depôt.

| In. In. | £ s. d. | In. In. | £ s. d. |
|---|---|---|---|
| 20×10 best blue Bangor | 13 2 6 | 20×10 best Eur'ka unfading green | 15 17 6 |
| 20×12 ditto | 13 17 6 | 20×12 ditto | 18 7 6 |
| 20×10 1st quality ditto | 13 0 0 | 18×10 ditto | 13 5 0 |
| 20×12 ditto | 13 15 0 | 16×8 ditto | 10 5 0 |
| 16×8 ditto | 7 5 0 | 20×10 permanent green | 11 12 6 |
| 22×10 best blue Portmadoc | 12 12 6 | 18×10 ditto | 9 12 6 |
| 16×8 ditto | 6 12 6 | 16×8 ditto | 6 12 6 |

### TILES.

At Railway Depôt.

| | s. d. | | s. d. |
|---|---|---|---|
| Best plain red roofing (per 1000) | 42 0 | Best "Hartshill" brand, plain sand-faced (per 1000) | 45 0 |
| Hip and Valley (per doz.) | 3 7 | Do. pressed (per 1000) | 42 6 |
| Best Broseley (per 1000) | 50 0 | Do. Ornamental (per 1000) | 47 6 |
| Do. Ornamental (per 1000) | 52 6 | Hip (per doz.) | 4 0 |
| Hip and Valley (per doz.) | 4 0 | Valley (per doz.) | 3 6 |
| Best Ruabon red, brown, or brindled (Edw'ds) (per 1000) | 57 6 | Staffords. (Hanley) Reds or Brindled (per 1000) | 42 6 |
| Do. Ornamental (per 1000) | 60 0 | Hand-made sand-faced (per 1000) | 45 0 |
| Hip (per doz.) | 4 0 | Hip (per doz.) | 4 0 |
| Valley (per doz.) | 3 0 | Valley (per doz.) | 3 6 |

### WOOD.

| BUILDING WOOD. | At per standard. £ s. d. | | £ s. d. |
|---|---|---|---|
| Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in. | 14 0 0 | ... | 15 10 0 |
| Deals: best 3 in. by 9 | 13 10 0 | ... | 14 10 0 |

### WOOD (*Continued*).

| BUILDING WOOD (*Continued*)— | At per standard. £ s. d. | | £ s. d. |
|---|---|---|---|
| Battens: best 3½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in. | 11 10 0 | ... | 12 10 0 |
| Battens: best 2½ by 6 and 3 by 6 | 0 10 0 | | less than 7 in. and 8 in. |
| Deals: seconds | 1 0 0 | | less than best. |
| Battens: seconds | 0 10 0 | " | " |
| 2 in. by in. and 2 in. by 6 in. | 9 10 0 | ... | 10 10 0 |
| 3 in. by 4½ in. and 2 in. by 5 in. | 9 0 0 | ... | 10 0 0 |
| Foreign Sawn Boards— | | | |
| 1 in. and 1¼ in. by 7 in. | 0 10 0 | | more than battens. |
| ¼ in. | 1 0 0 | | " |
| Fir timber: best middling Danzig or Memel (average specification) | At per load of 50 ft. 5 0 0 | ... | 5 10 0 |
| Seconds | 4 10 0 | ... | 5 0 0 |
| Small timber (8 in. to 10 in.) | 3 17 6 | ... | 4 0 0 |
| Small timber (6 in. to 8 in.) | 3 5 0 | ... | 3 10 0 |
| Swedish balks | 2 12 6 | ... | 3 0 0 |
| Pitch-pine timber (30 ft. average) | 5 5 0 | ... | 6 0 0 |

| JOINERS' WOOD. | At per standard. £ s. d. | | £ s. d. |
|---|---|---|---|
| White Sea: first yellow deals, 3 in. by 11 in. | 24 10 0 | ... | 25 10 0 |
| 3 in. by 9 in. | 22 10 0 | ... | 23 10 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 17 0 0 | ... | 18 0 0 |
| Second yellow deals, 3in. by 11in. | 19 0 0 | ... | 20 0 0 |
| " " 3 in. by 9 in. | 18 0 0 | ... | 19 10 0 |
| Battens, 2½ in. and 3in. by 7 in. | 14 0 0 | ... | 15 0 0 |
| Third yellow deals, 3 in. by 11 in. and 9 in. | 14 0 0 | ... | 15 0 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 11 10 0 | ... | 12 10 0 |
| Petersburg: first yellow deals, 3 in. by 11 in. | 21 10 0 | ... | 22 10 0 |
| Do. 3 in. by 9 in. | 18 10 0 | ... | 19 10 0 |
| Battens | 14 0 0 | ... | 15 0 0 |
| Second yellow deals, 3 in. by 11 in | 16 10 0 | ... | 17 10 0 |
| Do. 3 in. by 9 in. | 15 0 0 | ... | 16 0 0 |
| Battens | 11 10 0 | ... | 12 10 0 |
| Third yellow deals, 3in. by 11 in. | 13 10 0 | ... | 14 10 0 |
| Do. 3 in. by 9 in. | 13 0 0 | ... | 14 0 0 |
| Battens | 10 10 0 | ... | 11 0 0 |
| White Sea and Petersburg— | | | |
| First white deals, 3 in. by 11 in. | 15 0 0 | ... | 16 0 0 |
| " " 3 in. by 9 in. | 14 0 0 | ... | 14 10 0 |
| Battens | 11 10 0 | ... | 12 10 0 |
| Second white deals, 3in. by 11in. | 14 0 0 | ... | 15 0 0 |
| " " 3 in. by 9 in. | 13 0 0 | ... | 14 0 0 |
| Battens | 10 10 0 | ... | 11 0 0 |
| Pitch-pine: deals | 19 0 0 | ... | 21 0 0 |
| Under 2 in. thick extra | 0 10 0 | ... | 1 0 0 |
| Yellow Pine—First, regular sizes | 46 0 0 | | upwards. |
| Oddments | 32 0 0 | | " |
| Seconds, regular sizes | 33 0 0 | | " |
| Oddments | 28 0 0 | | " |
| Kauri Pine—Planks per ft. cube | 0 4 6 | ... | 0 6 0 |
| Danzig and Stettin Oak Logs— | | | |
| Large, per ft. cube | 0 3 0 | ... | 0 3 9 |
| Small " " | 0 2 6 | ... | 0 2 6 |
| Wainscot Oak Logs, per ft. cube | 0 6 6 | ... | 0 8 0 |
| Dry Wainscot Oak, per ft. super. as inch | 0 0 10 | ... | 0 1 0 |
| ¼ in. do. do. | 0 0 8½ | ... | — |
| Dry Mahogany—Honduras, Tabasco, per ft. super. as inch | 0 0 10 | ... | 0 1 1 |
| Selected, Figury, per ft. super. as inch | 0 1 6 | ... | 0 2 6 |
| Dry Walnut, American, per ft. super. as inch | 0 0 10 | ... | 0 1 0 |
| Teak, per load | 18 0 0 | ... | 22 0 0 |
| American Whitewood planks, per ft. cube | 0 5 0 | ... | 0 6 0 |

| Prepared Flooring, etc.— | Per square. £ s. d. | | £ s. d. |
|---|---|---|---|
| 1 in. by 7 in. yellow, planed and shot | 0 13 6 | ... | 0 17 0 |
| 1 in. by 7 in. yellow, planed and matched | 0 14 0 | ... | 0 18 0 |
| 1¼ in. by 7 in. yellow, planed and matched | 0 16 0 | ... | 1 0 0 |
| 1 in. by 7 in. white, planed and shot | 0 12 0 | ... | 0 14 6 |
| 1 in. by 7 in. white, planed and matched | 0 12 6 | ... | 0 15 0 |
| 1¼ in. by 7 in. white, planed and matched | 0 15 0 | ... | 0 16 6 |
| ¾ in. by 7 in. yellow, matched and beaded or V-jointed brds. | 0 11 0 | ... | 0 13 6 |
| 1 in. by 7 in. " " | 0 14 0 | ... | 0 18 6 |
| ¾ in. by 7 in. white " " | 0 10 0 | ... | 0 11 0 |
| 1 in. by 7 in. " " | 0 12 9 | ... | 0 15 0 |

6 in. at 6d. to 9d. per square less than 7 in.

### JOISTS, GIRDERS, &c.

| | In London, or delivered Railway Vans, per ton. £ s. d. | | £ s. d. |
|---|---|---|---|
| Rolled Steel Joists, ordinary sections | 9 0 0 | ... | 10 0 0 |
| Compound Girders, ordinary sections | 11 0 0 | ... | 12 0 0 |
| Steel Compound Stanchions | 12 0 0 | ... | 13 0 0 |
| Angles, Tees, and Channels, ordinary sections | 11 0 0 | ... | 12 0 0 |
| Flitch Plates | 11 0 0 | ... | 12 0 0 |
| Cast Iron Columns & Stanchions, including ordinary patterns | 8 10 0 | ... | 9 0 0 |

### METALS.

| | Per ton, in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| IRON— | | | |
| Common Bars | 9 0 0 | ... | 9 10 0 |
| Staffordshire Crown Bars, good merchant quality | 9 5 0 | ... | 9 15 0 |
| Staffordshire "Marked Bars" | 11 0 0 | ... | — |
| Mild Steel Bars | 9 5 0 | ... | 9 15 0 |
| Hoop Iron, basis price | 10 0 0 | ... | — |
| " " Galvanised | 17 10 0 | ... | — |
| ("And upwards, according to size and gauge.) | | | |
| Sheet Iron Black— | | | |
| Ordinary sizes to 20 g. | 10 5 0 | ... | — |
| " " 24 g. | 11 5 0 | ... | — |
| " " 26 g. | 12 15 0 | ... | — |
| Sheet Iron, Galvanised, flat, ordinary quality— | | | |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. | 15 10 0 | ... | — |
| Ordinary sizes to 22 g. and 24 g. | 16 0 0 | ... | — |
| " " 26 g. | 17 0 0 | ... | — |
| Sheet Iron, Galvanised, flat, best quality— | | | |
| Ordinary sizes to 20 g. | 18 10 0 | ... | — |
| " " 22 g. and 24 g. | 19 0 0 | ... | — |
| " " 26 g. | 20 10 0 | ... | — |

### METALS (Continued).

| IRON (Continued)— | Per ton, in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| Galvanised Corrugated Sheets— | | | |
| Ordinary sizes, 6ft. to 8ft. 20 g. | 15 0 0 | ... | — |
| " " 22 g. and 24 g. | 15 5 0 | ... | — |
| " " 26 g. | 16 15 0 | ... | — |
| Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker | 12 10 0 | ... | — |
| Best Soft Steel Sheets, 2 g. & 24 g. | 13 10 0 | ... | — |
| " " " 26 g. | 15 10 0 | ... | — |
| Cut Nails, 3 in. to 6 in. | 11 0 0 | ... | 11 10 0 |
| (Under 3 in., usual trade extras.) | | | |

### LEAD, &c.

| | Delivered in London. £ s. d. | | |
|---|---|---|---|
| LEAD—Sheet, English, 4lb. and up | 21 0 0 | ... | — |
| Pipe in coils | 21 10 0 | ... | — |
| Soil pipe | 24 10 0 | ... | — |
| Compo pipe | 24 10 0 | ... | — |
| ZINC—Sheet— | In casks of 10 cwt. | | |
| Vielle Montagne | 33 15 0 | ... | — |
| Silesian | 33 10 0 | ... | — |
| Zinc, in bundles, 1s. per cwt. extra. | | | |
| COPPER— | | | |
| Strong Sheet per lb. | 0 1 1 | ... | — |
| Thin " | 0 1 2 | ... | — |
| Copper nails " | 0 1 0 | ... | — |
| Copper wire " | 0 1 0 | ... | — |
| BRASS— | | | |
| Strong Sheet " | 0 1 0 | ... | — |
| Thin " | 0 1 1 | ... | — |
| TIN—English Ingots " | 0 2 3 | ... | — |
| SOLDER—Plumbers' " | 0 0 11 | ... | — |
| Tinmen's " | 0 1 2½ | ... | — |
| Blowpipe " | 0 1 4½ | .. | — |

### ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

| Per Ft., Delivered. | | | |
|---|---|---|---|
| 15 oz. thirds | 2½d. | 26 oz. fourths | 4d. |
| " fourths | 2d. | 32 oz. thirds | 5½d. |
| 21 oz. thirds | 3½d. | " fourths | 4½d. |
| " fourths | 3d. | Fluted Sheet, 15 oz. | 3d. |
| 26 oz. thirds | 4½d. | " 21 oz. | 4d. |

### ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

| Per Ft., Delivered. | | | |
|---|---|---|---|
| ⅛ Rolled plate | 2½d. | Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled and Rolled Cathedral, white | 3½d. |
| ¼ Rough rolled and rough cast plate | 2½d. | Ditto, tinted | 5d. |
| ⅜ Rough rolled and rough cast plate | 3d. | | |

* Not less than two crates.

| OILS, &c. | | £ s. d. |
|---|---|---|
| Raw Linseed Oil in pipes | per gallon | 0 2 3 |
| " " " in barrels | " | 0 2 4 |
| " " " in drums | " | 0 2 5 |
| Boiled " in barrels | " | 0 2 5 |
| " " " in drums | " | 0 2 8 |
| Turpentine in barrels | " | 0 2 8 |
| " in drums | " | 0 2 10 |
| Genuine Ground English White Lead, (In not less than 5 cwt. lots) | per ton | 29 5 0 |
| Red Lead, Dry | " | 26 12 6 |
| Best Linseed Oil Putty | per cwt. | 0 10 0 |
| Stockholm Tar | per barrel | 1 12 0 |

| VARNISHES, &c. | Per gallon. £ s. d. |
|---|---|
| Fine Pale Oak Varnish | 0 8 0 |
| Pale Copal Oak | 0 10 6 |
| Superfine Pale Elastic Oak | 0 12 6 |
| Fine Extra Hard Church Oak | 0 10 0 |
| Superfine Hard-drying Oak, for seats of Churches | 0 14 6 |
| Fine Elastic Carriage | 0 12 9 |
| Superfine Pale Elastic Carriage | 0 16 0 |
| Fine Pale Maple | 0 10 0 |
| Finest Pale Durable Copal | 0 18 6 |
| Extra Pale French Oil | 1 1 0 |
| Eggshell Flating Varnish | 0 18 6 |
| White Pale Enamel | 1 4 0 |
| Extra Pale Paper | 0 12 0 |
| Best Japan Gold Size | 0 10 0 |
| Best Black Japan | 0 16 0 |
| Oak and Mahogany Stain | 0 9 0 |
| Brunswick Black | 0 8 0 |
| Berlin Black | 0 16 0 |
| Knotting | 0 10 0 |
| French and Brunsh Polish | 0 10 6 |

## TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BOSTON.—For alterations and additions to houses, Brady-street, Boston, for Mr. J. W. Dawson. Mr. Frederick Parker, F.S.A., architect, The Square, Boston. Quantities by architect:—

| | | | |
|---|---|---|---|
| J. Lucas & Sons | £222 0 0 | J. J. Roberts, Boston* | £159 18 6 |
| Belton & Co. | 222 13 0 | | |
| W. E. Dawson | 164 0 0 | | |

BROMHAM (Beds).—For additions, etc., Grange Farm, Bromham, Beds. Mr. Herbert Haines, A.R.I.B.A.:—

| | | | |
|---|---|---|---|
| S. Foster | £456 10 | Dawes & Bowler* | £419 15 |
| Warton & Dunstall | 449 10 | | |

LLANDOVERY.—For erection of laboratories and classrooms at Llandovery College. Mr. Ll. Bankes Price, architect, Lampeter:—

| | | | |
|---|---|---|---|
| W. Jones | £2,549 | H. Smith, Wolverley* | £2,196 |
| G. Mercer | 2,545 | J. Owen | 2,095 |
| D. Howells & Sons | 2,388 | | |

LYNEHAM (Wilts).—For rebuilding the White Hart Inn, for Messrs. R. B. Bowly & Co., Ltd. Messrs. Drew & Sons, Lic.R.I.B.A., architects, Regent Circus, Swindon:—

E. J. Drew & Sons, Calne* ..... £1,188 5

[Six tenders received.]

SEDGLEY.—For reconstruction of the retort bench and other works. Mr. Joseph Brettle, engineer, Gas Works, Lower Gornal:—

Gibbons Bros., Ltd., Dudley* ..... £5,450

WATFORD.—For erection of a vicarage for Christ Church, St. Alban's-road. Quantities by Messrs. Northcroft, Neighbour, & Nicholson, surveyors:—

| | | | |
|---|---|---|---|
| Milsom & Booth | £4,100 | W. Lawrence & Son | £1,894 |
| Barker & Sons | 2,076 | J. Honour & Son | 1,872 |
| Ensor & Ward | 2,018 | W. King & Son | 1,849 |
| D. Eames | 2,017 | C. Miskin & Son | 1,832 |
| G. & I. Waterman | 2,009 | Fassnidge & Son | 1,827 |
| P. F. Whyborn | 1,998 | Bracey & Clark | 1,800 |
| J. Darvill | 1,970 | Clifford & Gough | 1,799 |
| W. L. Franklin | 1,960 | W. Payne | 1,749 |
| H. Pickrill | 1,954 | G. Wiggs & Sons, Watford* | 1,745 |
| C. Brightman & Son | 1,897 | | |

WOOTTON BASSETT (Wilts).—For alterations and additions to existing premises for picture house, for Mr. W. Spear. Messrs. Drew & Sons, Lic.R.I.B.A., architects, Regent Circus, Swindon:—

Pope Bros., Swindon* ..... £275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